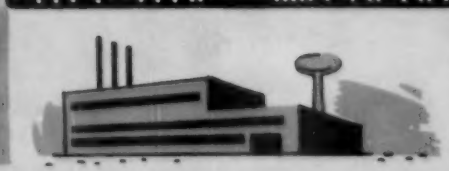
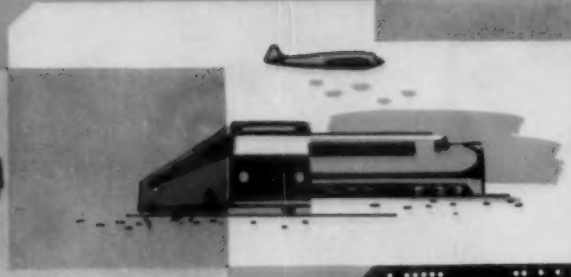


June
1959

MANAGEMENT *and* BUSINESS AUTOMATION



Machine Accounting Salaries

... A Nation-wide Study

Page 12

Even if your work load increased one thousand percent, Honeywell 800 could still handle all your data processing needs

To growing companies who are ready for electronic data processing:

We're not exaggerating. You can't outgrow Honeywell 800. Honeywell scientists have engineered into this new transistorized System a potential capacity many times greater than that of any comparable machine. And remember this about the medium-scale, competitively priced Honeywell 800.

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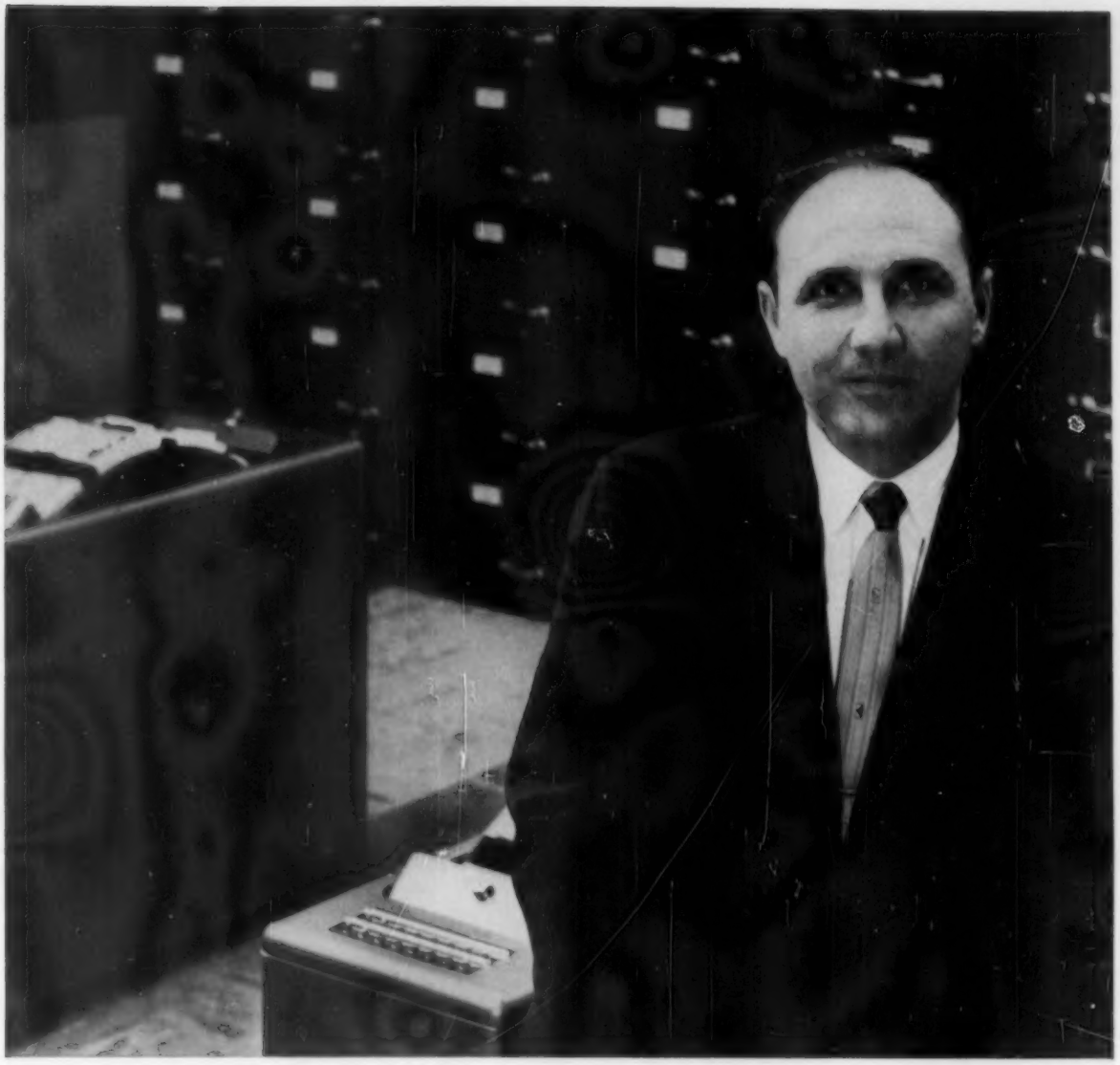
ELECTRONIC DATA PROCESSING

For More Information Circle Reader Service Card No. 6-51



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"Rotary files most efficient for active records."

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For More Information Circle Reader Service Card No. 6-52

POGO*

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for the Bendix G-15

Digital Computer

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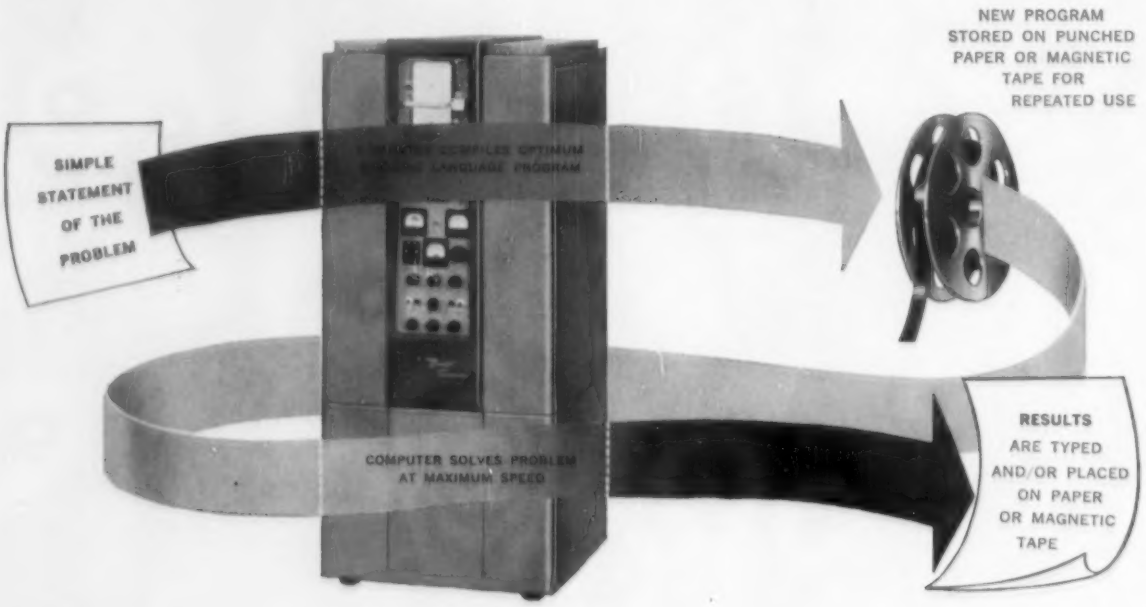
For the first time in a low-price computer, a set of fully self-contained automatic programming systems is available . . . POGO, with its ability to convert simple commands into fast and powerful machine language programs . . . and the already famous INTERCOM 1000 interpretive system, with its extreme programming simplicity and speed of preparation.

POGO commands are very similar to those used for INTERCOM 1000. The principal difference between the two systems is that POGO, unlike INTERCOM 1000, compiles an optimum machine language program and reproduces it for repeated use. Computing speed is also increased, since no interpretation is required during computation. While floating point INTERCOM 1000 is ideal for open shop problems, POGO may be preferred for production problems that must be solved repeatedly at high speed.

In POGO, data is handled in decimal form. Seventeen accumulator registers are available, as well as twelve index registers, which can be used to modify the effective address of any command. Additional data on the G-15, POGO, and INTERCOM 1000 will be sent on request.

* *Program Optimizer for G-15 Operations*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For More Information Circle Reader Service Card No. 6-53

MANAGEMENT *and* BUSINESS AUTOMATION

June, 1959
Vol. 1, No. 6

Reporting to management on new ideas, developments, applications, results, and the human impact of office automation in all areas of commerce, industry and government.

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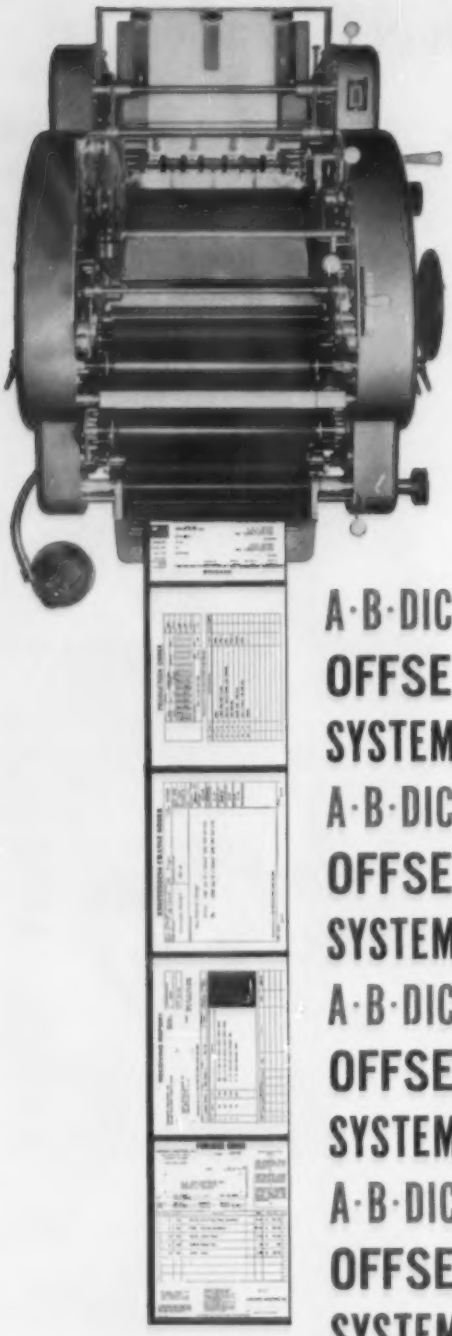

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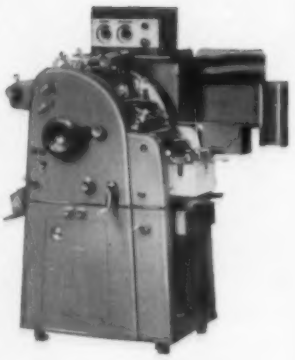

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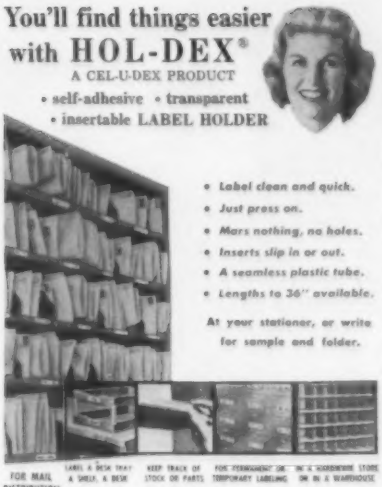

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. . . from the

Publisher's Desk

LAUNCHING a new publication is not unlike producing a new stage play on Broadway. Everyone waits tensely for the reviews.

But in the case of a publication the whole process is repeated monthly with each new issue. This is the challenge which spurs editors to constantly improve the product which their readers will review critically every month.

Prior to launching MBA last fall, we engaged the services of a highly-regarded market research organization, Elrick and Lavidge, Inc., to find out what kind of treatment of the subject of business automation was needed and wanted by you, the reader.

Our interpretation of the results of this study determined the contents of our first issues. Fortunately the 'reviews' were good. In fact reaction to some of our early editorial features was so favorable that we were slightly astonished.

But we are not resting here. Each month we poll a portion of our readers to determine if we are hitting the mark—or where we may be missing it. Our editors are seeking your frank opinion of MBA, and they use it to guide their direction in coming issues.

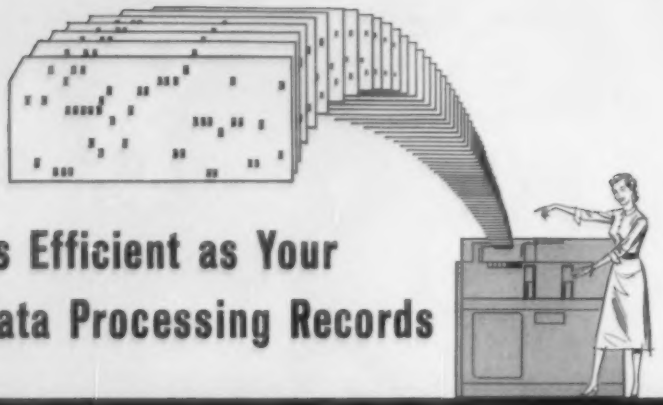
It has been gratifying to see evidence pile up in favor of major presentations—such as General Robinson's advice to top management, the Hoffa drive to unionize office workers, the March feature on magnetic ink character recognition, and many others. These, you tell us, are filling the big void which existed prior to MBA.

Editor Arnold Keller and his staff have many more equally vital features up their sleeves for future issues. Next month, for example, you will read the first detailed presentation of the automated system behind Hilton's Carte Blanche credit card operation.

A round-up of mechanical and automatic filing equipment and methods also will appear in the July issue. As automation grows, the need for greater filing capacity and improved access to files becomes a vital consideration. This feature will give you the background necessary for considering major changes in the handling and storage of data processing records.

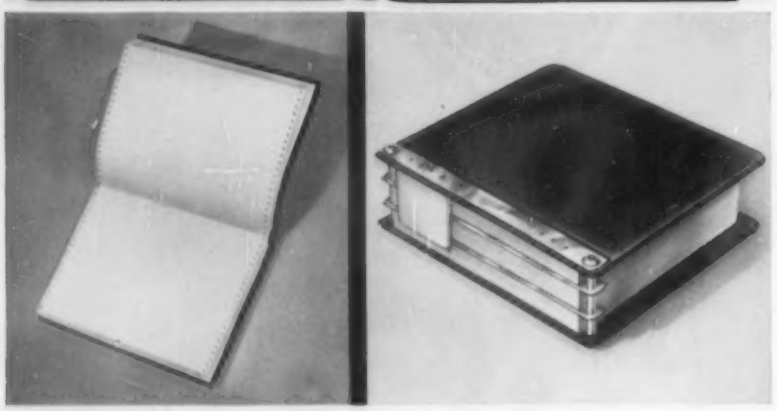
We hope that your 'reviews' of these and other features will continue to be favorable.

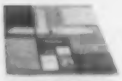
Charles W. Gilbert



As Efficient as Your Data Processing Records

NBB's Storage and Reference Binders for Tab Runs





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For More Information Circle Reader Service Card No. 6-56

Letters

Dear Sir:

I read with interest your editorial on a possible name in the event the N.M.A.A. considers a change. May I suggest substituting the word "Executives" for "Management"?

Since there are many able individuals concerned with executing automation in business who are not managers, the term would not connote a restricted membership. The word has proper prestige, is more appropriately defined to the existing membership, and is equally timeless.

William V. Crowley
Member of the Technical Staff
Information Systems Department
Ramo-Wooldridge Div.
Los Angeles, Calif.

Dear Sir:

I would like to compliment you upon the very excellent publication for which you are responsible. There are many items which are useful to me in my classroom work.

One of the most useful was "Making Copies" which appeared in the October issue. May I have your permission to duplicate this for my students?

James H. Greene, Ph.D.
Associate Professor
Purdue University
Dept. of Industrial Eng.
Lafayette, Ind.

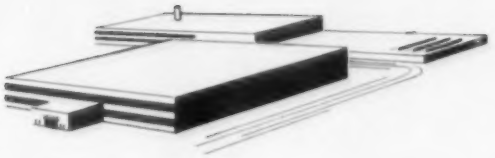
Dear Sir:

Thank you very much for giving us permission to print the article "Automating Is a Job for Top Management" by General Robinson.

I hope to use it in our June issue and shall announce it in May when we shall publish a general introductory article on integrated data processing.

Erroll Wilmot
Editor
"Automatic Data Processing"
London, England

Address letters to the Editor, MANAGEMENT and BUSINESS AUTOMATION, 600 W. Jackson, Chicago 6, Ill.



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Of the 32 American industrial corporations enjoying annual sales of one billion dollars or more, 27 bought MAC control panels and wires during 1958. More than 95% of their purchases were repeat orders.

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NMAA Conference – St. Louis
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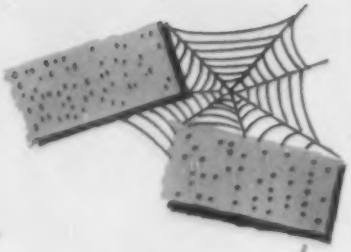

PLAGUED BY PUNCHED CARD PARALYSIS?

If your punched card billing or order writing system isn't producing as fast as you'd like, don't blame the machines! They're no faster than your operator can feed them. *Outmoded filing systems are unfit companions for today's high speed processing machines.* Give your machines – and your operators – a break! Provide them with a new "modern as tomorrow" *VISI*record system for fast, effective, visible control of punched master cards, card sets or prepunched decks. Among the many advantages you'll gain are –

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Write now (or clip and attach this ad to your signed letterhead) for *VISI* record's answers to your punched card filing problems. Then start congratulating yourself on the time you're going to save. Address Dept. BA-4.

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375 Park Avenue, New York 22, N.Y.

The world's fastest visible record keeping system

Circle Reader Service Card No. 6-58

Full Schedule Awaits N.M.A.A. In St. Louis

Acting president D. B. Paquin will direct sessions.

MACHINE accountants from across the nation will gather in St. Louis on June 24, 25, 26, for the annual conference and business show of the National Machine Accountants Association to be held at the Chase-Park Plaza Hotels. An added inducement for attendance has been announced by Eugene A. Haessig, national vice president of the 1959 conference. A new Simca automobile, donated by the Standard Register Co., Dayton, Ohio, will be awarded as a bonus to some lucky member, according to Haessig.

Lt. Gen. Leslie R. Groves, wartime head of the Manhattan atomic bomb project, and now vice president of Remington Rand, will deliver the keynote address. Acting NMAA President, D. B. Paquin of Chicago will preside over the conference proceedings.

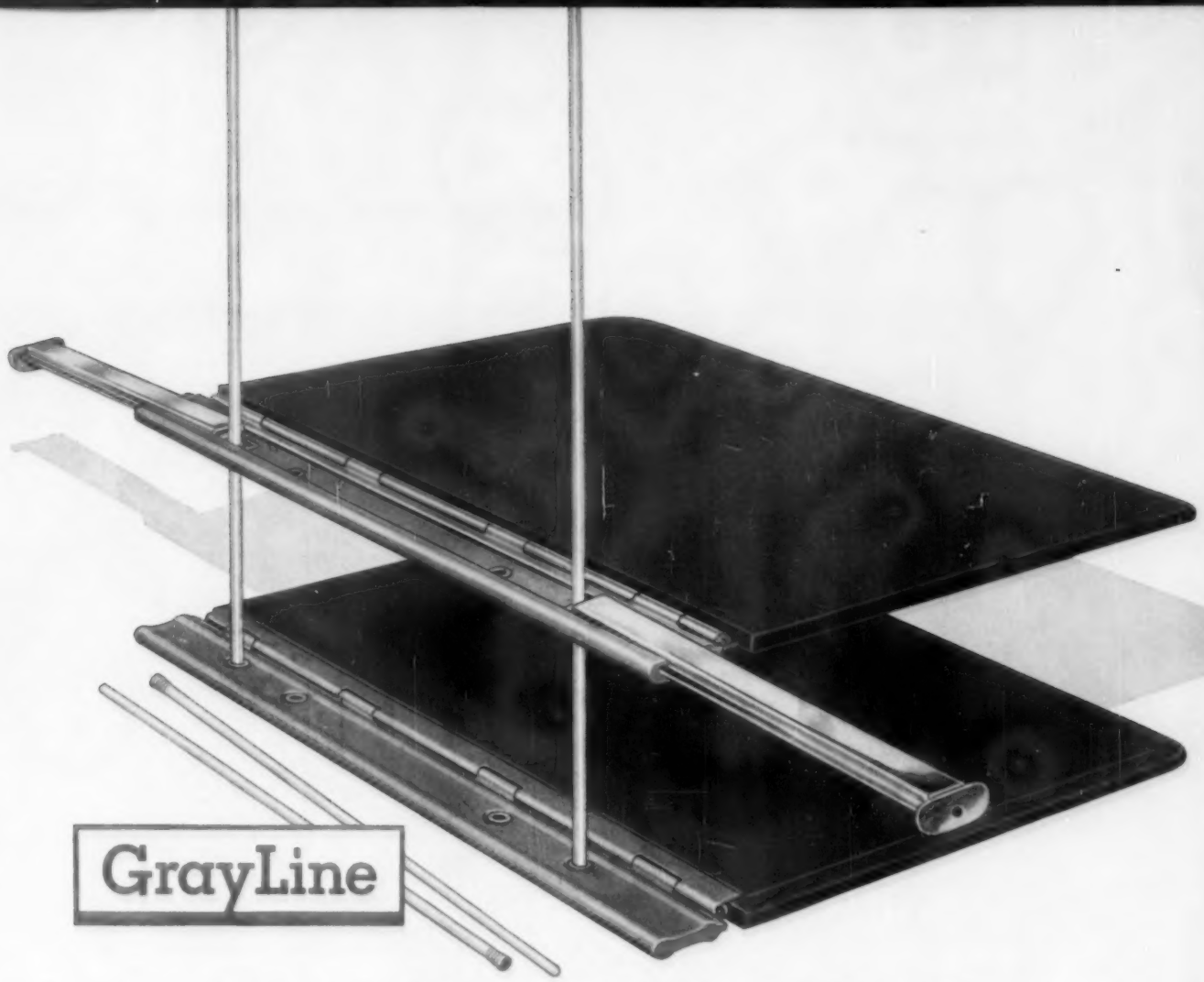
Forty-seven seminars will cover a wide range of applications including Punched Cards, Electronics and General Education. Nine in-plant installation tours will be offered. A special closed-circuit television program will take registrants to three large-scale computer centers where the IBM 702-5, the Burroughs Datatron 220 and the Minneapolis Honeywell Datamatic 1000 will be seen in action.

This EDP installation in the Aeronautical Chart & Information Center in St. Louis, is one of three such units which will be viewed by members via closed circuit TV.

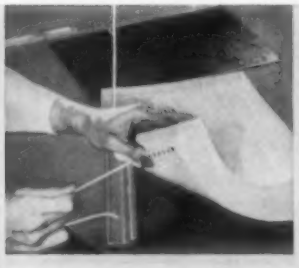
Close to 40 companies will display their latest product developments in the exhibit area.

On the business side, NMAA chapter delegates will assemble in session to elect new national officers and debate certain items of new and old business. Among the latter, one item, a name change proposal, is certain to provoke considerable discussion, according to NMAA officials.

Among those nominated for top offices are D. B. Paquin, president; Alfonso G. Pia, Great Salt Lake, executive vice president; W. C. Andrews, Jr., San Francisco, vice president—education; L. W. Montgomery, Shreveport, vice president—chapter organization; Elmer F. Judge, Wichita, vice president—publicity and awards; Donald T. Barber, Toronto, vice president—library and publications.



Improved Nylon Post Binders for Marginal Punched Sheets



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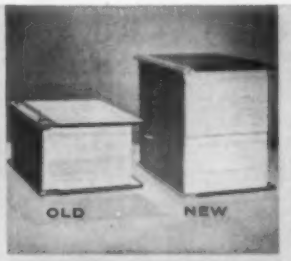

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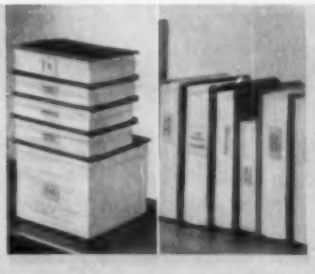

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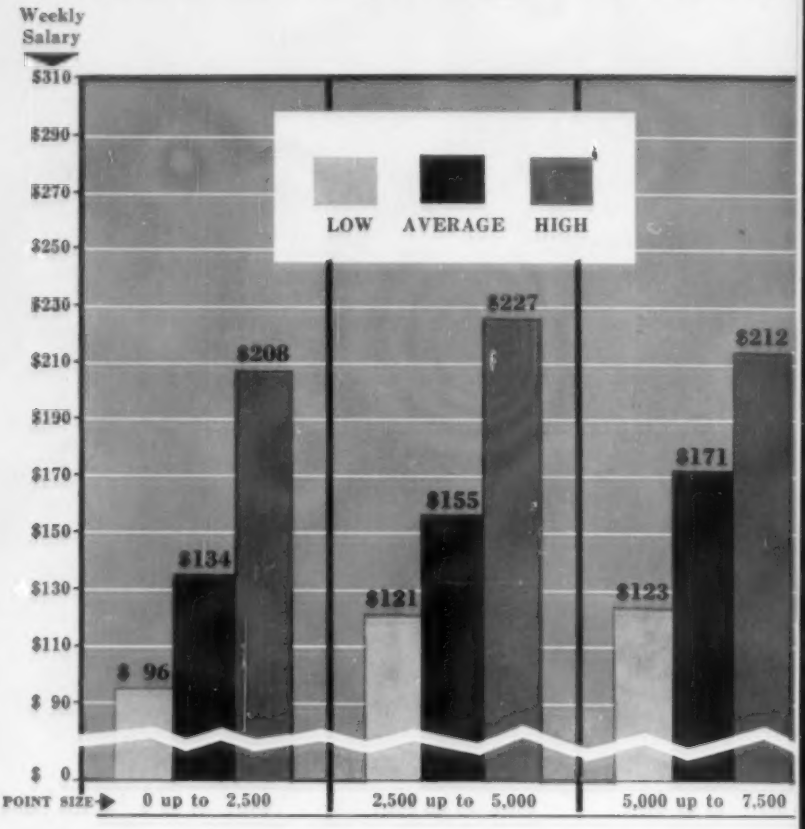
From MBA Research...

A Survey Of Machine Accounting Salaries

Machine Accounting Managers' Salaries by



Here are the results of our first nationwide salary survey of machine accounting positions. It covers 200 top companies in 21 selected cities.

SOME 200 firms from 21 selected cities have participated in the first nationwide salary survey of machine accounting positions, conducted for MANAGEMENT AND BUSINESS AUTOMATION by the Business Research Corp. of Chicago.

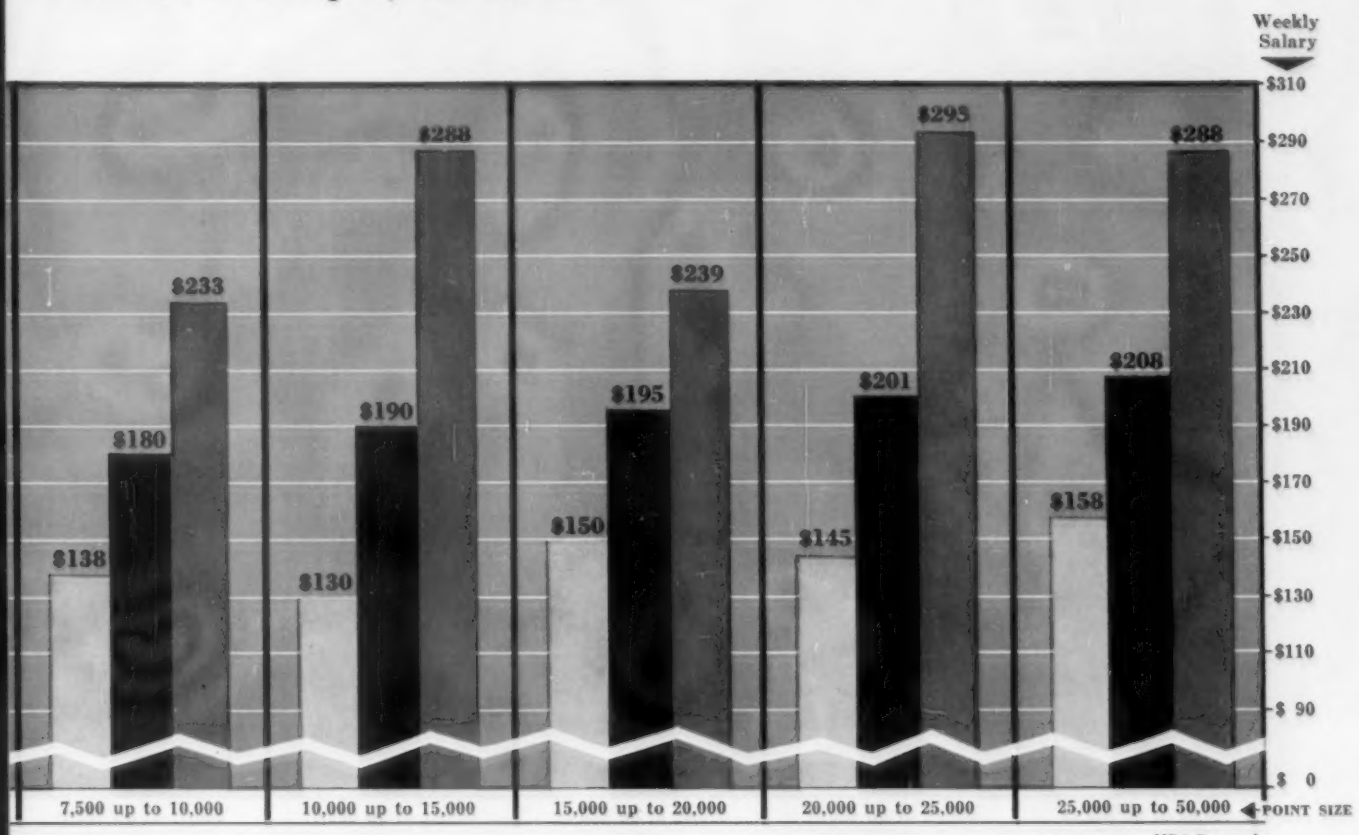
The firms, representing virtually every industrial classification, reported salaries for 7,157 employes covering positions from machine accounting manager down to department clerk trainee. Survey results are expressed in weekly salary figures.

Median point size of participating installations was seven thousand. *(Median, statistically speaking, is the exact middle point in a series of sequenced figures. A point represents a dollar of monthly equipment rental and is a common measuring guide for size of installations.)*

The job of machine accounting manager was analyzed by point size (see chart above) as the manager's salary is usually keyed to the size of the installation. Median salary was $163 per week.

Highest actual salary reported was $293 to the manager of a 22,000 point installation. Lowest, was a $96 salary to a 1,500 point operation. Actual salaries averaged from $134 for the smaller installations to $208 for the king-size jobs.

Point Size of Company Installation



MBA Research

Only one third of the companies indicated the position of assistant manager. Of those reported, the median salary was $127. This was the same median figure resulting from the survey of technical assistants, although fewer companies reported on the latter position.

A question of points

The national median average for tabulating supervisors was $122. The supervisor's job, along with the lesser operating positions, did not appear to have any correlation to the size of the installation. For comparison purposes they are listed by participating cities. (see chart, page 14).

Only 50 per cent of the companies indicated use of a lead tabulating machine operator. The reported median was $102. Senior tabulating operators were listed by practically every reporting company, as were junior operators. The senior median was established at $93, while the junior figure was set at $76.

The national median for trainee machine operators hit at $65. Installations of less than 5,000 points averaged one trainee each. From five to ten thousand the average went up to two trainees per installation. The figure fluctuated considerably with the larger installations.

The survey indicated a median for key punch supervisors at $99. For those installations under 10,000 points the median came to $88. For those over the 10,000 mark the figure was $105. Actual salaries ranged from $62 up to $185. The latter was reported for an installation of 20,500 points.

However, point size is not a reliable measuring stick for evaluating salaries of key punch supervisors. Some larger installations have comparatively few key punch operators, while in some smaller installations the majority of the points come from key punch rentals.

The job of lead keypunch operator was reported by about one third of the companies. The median was established at $87. The jobs of senior and junior key punch operators were reported by

almost 100 per cent of the companies. Median salary for senior operators was $76. Actual salaries started at $40 and were topped by $106. The median for junior operators hit at $68.

Key punch trainees were reported by 25 per cent of the companies surveyed. The median salary was $52.

Salaries of lead tabulating clerks ranged from $52 to $117. Median was $84. Senior clerks, salaries varied from $48 to $108 with the national median at $82. Juniors' ranged from $45 to $98 with a median of $58. Only a handful of companies reported on clerk trainees, the median hitting at $50.

The survey revealed that the majority of installations report to the controller although a large number, nearly 15 per cent, answer to the chief accountant. Others reported variously to the treasurer, secretary, auditor, cashier and assistant vice presidents.

Thirteen companies indicated that the machine accounting operation reported to the director of central data processing. Most elaborate of the controlling department titles was manager, electronic data programming and planning.

Some managers get overtime pay

Work weeks ranging from 35 to 50 hours were reported but a majority of the companies indicated 40 hours as the normal hours worked. Twenty-six of the firms reported overtime compensation to managers and assistants after 40 hours.

Overtime pay for all positions from technical assistant down through trainees was reported by virtually all participating companies.

The general average of extra pay for second and third shift operations was five to ten cents per hour for the second shift and ten to fifteen cents for the third shift.

Forty per cent of the companies indicated that they had a computer. Others said that delivery was pending. A majority indicated interest in a similar survey on computer personnel and such a survey is now in its initial stages. It will also be conducted for MBA by the Business Research Corp.

BRC, a management consulting firm established in 1920, is a charter member of the Association of Consulting Management Engineers and is the originator of "Pay-Data Service" which supplies clients with a continual up-dating of salary conditions by established job categories and responsibilities.

Among those companies which participated in this nationwide survey were the Philco Corp. of Philadelphia; Commonwealth Edison, Chicago; Western Auto Supply Co., Kansas City, Mo.;

Continued on page 16

Weekly Salary Comparison of

Cities Surveyed	Tabulating Supervisor	Lead Operator
	Salary Range Low–Median–High	Salary Range Low–Median–Hig
Los Angeles	97-125-133	90-111-118
San Francisco (Oakland)	92-133-200	100-104-125
Denver	76-96-125	83-102-133
Atlanta	89-98-113	87-97-108
Chicago	76-127-229	69-102-163
New Orleans	114-118-121	No Return
Boston	90-127-138	85-96-113
Detroit	107-120-170	65-102-127
Minneapolis (St. Paul)	80-100-184	81-96-127
Kansas City, Mo.	121-137-154	107-108-115
St. Louis	83-135-209	101-106-133
New York City	117-128-166	84-102-116
Cincinnati	98-107-121	75-85-95
Cleveland	120-137-158	97-120-140
Philadelphia	100-127-150	85-102-115
Pittsburgh	91-104-167	66-108-127
Dallas	88-108-127	76-98-110
Seattle	97-105-133	No Return
Milwaukee	75-122-192	70-105-135

Machine Accounting Personnel in 21 Key Cities

Senior Operator	Junior Operator	Trainee Operator	Key Punch Supervisor	Lead Operator	Senior Operator	Junior Operator	Trainee Operator
Salary Range Low–Median–High	Salary Range Low–Median–High	Salary Range Low–Median–High	Salary Range Low–Median–High	Salary Range Low–Median–High	Salary Range Low–Median–High	Salary Range Low–Median–High	Salary Range Low–Median–High
81-95-119	72-82-102	58-65-87	78-96-127	81-87-89	60-80-110	54-72-92	51-53-81
63-87-110	63-88-102	65-75-85	80-90-104	75-83-90	61-75-86	54-75-84	58-65-70
68-86-106	58-81-92	No Return	81-83-107	78-86-95	40-70-89	46-68-87	No Return
67-78-107	52-81-98	51-65-69	84-109-110	No Return	51-80 101	44-89-90	No Return
68-94-158	50-79-109	49-65-91	67-115-185	65-93-142	54-77-104	46-73-93	48-60-78
57-66-96	53-61-64	No Return	80-83-85	No Return	64-67-79	56-62-68	No Return
75-92-94	55-80-101	No Return	83-105-127	No Return	56-75-79	51-57-60	45-48-67
74-88-110	68-72-116	No Return	107-122-143	72-89-101	69-81-97	60-66-92	No Return
70-85-110	53-65-99	46-60-71	62-79-174	64-69-96	40-73-90	47-59-77	42-52-69
55-89-114	45-70-97	No Return	74-80-145	71-75-86	53-67-89	44-52-68	No Return
69-76-103	53-67-92	No Return	66-105-151	53-87-123	45-74-83	44-64-78	No Return
67-72-119	58-71-103	57-62-67	75-105-130	73-94-103	60-74-116	55-70-91	52-59-67
63-75-86	43-46-72	No Return	74-77-80	67-68-68	51-56-77	48-56-62	43-46-55
70-100-122	61-95-105	64-70-84	88-110-110	75-95-108	65-83-95	53-61-81	No Return
60-91-101	61-83-97	45-69-76	83-94-123	78-88-98	58-77-90	50-61-94	45-49-54
69-101-115	74-82-110	No Return	85-115-156	No Return	55-64-100	53-61-95	No Return
65-82-102	56-63-98	51-57-60	84-93-103	67-76-82	55-72-96	48-70-90	No Return
74-92-95	58-83-98	No Return	72-80-86	74-77-78	62-70-72	55-58-64	No Return
55-89-125	50-71-112	45-60-94	65-80-112	64-67-100	50-64-85	45-61-74	40-50-54

MBA Research

Summary of Each Position Listed in the Salary Survey

For the sake of continuity and accuracy in the salary survey, job titles and descriptions were given for each position specified. The description, covering duties, responsibilities and qualifications, applied generally to a specific job which may or may not be found in a particular company's service. Firms participating were asked to match their jobs to the descriptions listed here for each key position. Trainees are not included in this chart.

MACHINE ACCOUNTING MANAGER—Under general supervision, directs and manages preparation of punched card records of accounting transactions, statistics, and other data; produces accounting and statistical records and reports; payrolls, and tabulations for various other purposes; assists in the development of machine procedures, and provides machine service for any department of the company; determines the feasibility of converting manual procedures to mechanical methods.

TABULATING SUPERVISOR—Under supervision of Machine Accounting Manager, plans, schedules, supervises and directs tabulating machine activities involved in the preparation of reports, statements and records; maintains files and assigns personnel to carry out the above activities.

TABULATING MACHINE OPERATOR (Leader)—Under direct supervision, assists in supervising the activities of a group engaged in operating tabulating equipment to prepare accounting and statistical reports; plans and wires control panels for complex operations; assists in planning the presentation of reports and in developing departmental procedures.

TABULATING MACHINE OPERATOR (Senior)—Under direct supervision, operates a variety of tabulating machines to perform sorting, collating, calculating, summary punching, interpreting, and listing of data in connection with the preparation of accounting and statistical data; assists in the development of wiring diagrams for complex machine operations, and wires and tests boards for all operations.

TABULATING MACHINE OPERATOR (Junior)—Under direct supervision, operates a variety of tabulating machines to perform sorting, collating, calculating, summary punching, interpreting, and listing of data in connection with the preparation of accounting and statistical reports.

KEY PUNCH SUPERVISOR—Under supervision of Machine Accounting Manager, plans, schedules, supervises and directs key punching and verifying activities involved in the preparation of tabulating cards; maintains the corresponding files; supervises assigned personnel to carry out the above activities.

KEY PUNCH OPERATOR (Leader)—Under direct supervision, assists in supervising a group engaged in operating alphabetical and/or numeric key punch machines in recording a variety of accounting and statistical data on punched cards; assists in the scheduling of key punch functions; instructs workers on procedures used to perform routine assignments; trains new employes.

KEY PUNCH OPERATOR (Senior)—Under direct supervision, operates alphabetic and/or numeric key punch machines in recording a variety of accounting and statistical data on punched cards; instructs workers on procedures used to perform routine assignments; assists in the training of new employes.

KEY PUNCH OPERATOR (Junior)—Under direct supervision, operates alphabetic and/or numeric key punch machines in recording a variety of accounting and statistical data on punched cards; verifies punched cards; performs related clerical duties.

MBA Research

Chase Manhattan Bank, New York City; The Frito Co., Dallas; The University of Pittsburgh, Pittsburgh; National Farmers Union, Denver, Colo.; Colonial Stores, Inc., Atlanta; Rexall Drug Co., Los Angeles.

Western Air Lines, Inc.; Bank of California; Lykes Brothers Steamship Co., New Orleans; Boston Edison Co.; Michigan Bell; Great Lakes Steel Corp.; Spencer Chemical Co., Kansas City; American Machine & Foundry Co., Brooklyn; Continental Can Co., New York; Pacific Finance Corp., Los Angeles.

Pet Milk Co., St. Louis; Schlage Lock Co., San Francisco; Time, Inc., New York; The Celotex Corp., Chicago; Standard Oil Co. of Ohio, Cleveland; MacGregor Sport Products, Cincinnati; The Florsheim Shoe Co., Chicago; Charles Pfizer & Co., Inc., Brooklyn; Fitzsimmons Army Hospital, Denver; Continental Air Lines; The Denver & Rio Grande Railroad; Minneapolis Star and Tribune; Minnesota Mining and Manufacturing Co.; Equitable Life Assurance Society of the United States and Grange-Mayflower-Rocky Mountain Insurance Co., Seattle, round out only a representative grouping of companies reporting. ■

Readers desiring detailed reports of various cities involved in this survey may obtain them by writing on company letterhead to: Research Department, MANAGEMENT and BUSINESS AUTOMATION, 600 W. Jackson Blvd., Chicago 6, Ill.

Closed-circuit TV control over the New York City terminal is only one of the advantages of the fully automated system which speeds delivery for the Yale Transport Corporation.

A Complete Automation System Delivers the Goods

By Louis M. Cottin

A New York transport firm achieves a high degree of service to its customers.

A FATHER'S devotion to customer service and a son's brilliant development of a "total" automation program have combined to make the Yale Transport Corp. one of the fastest growing trucking companies in the eastern states.

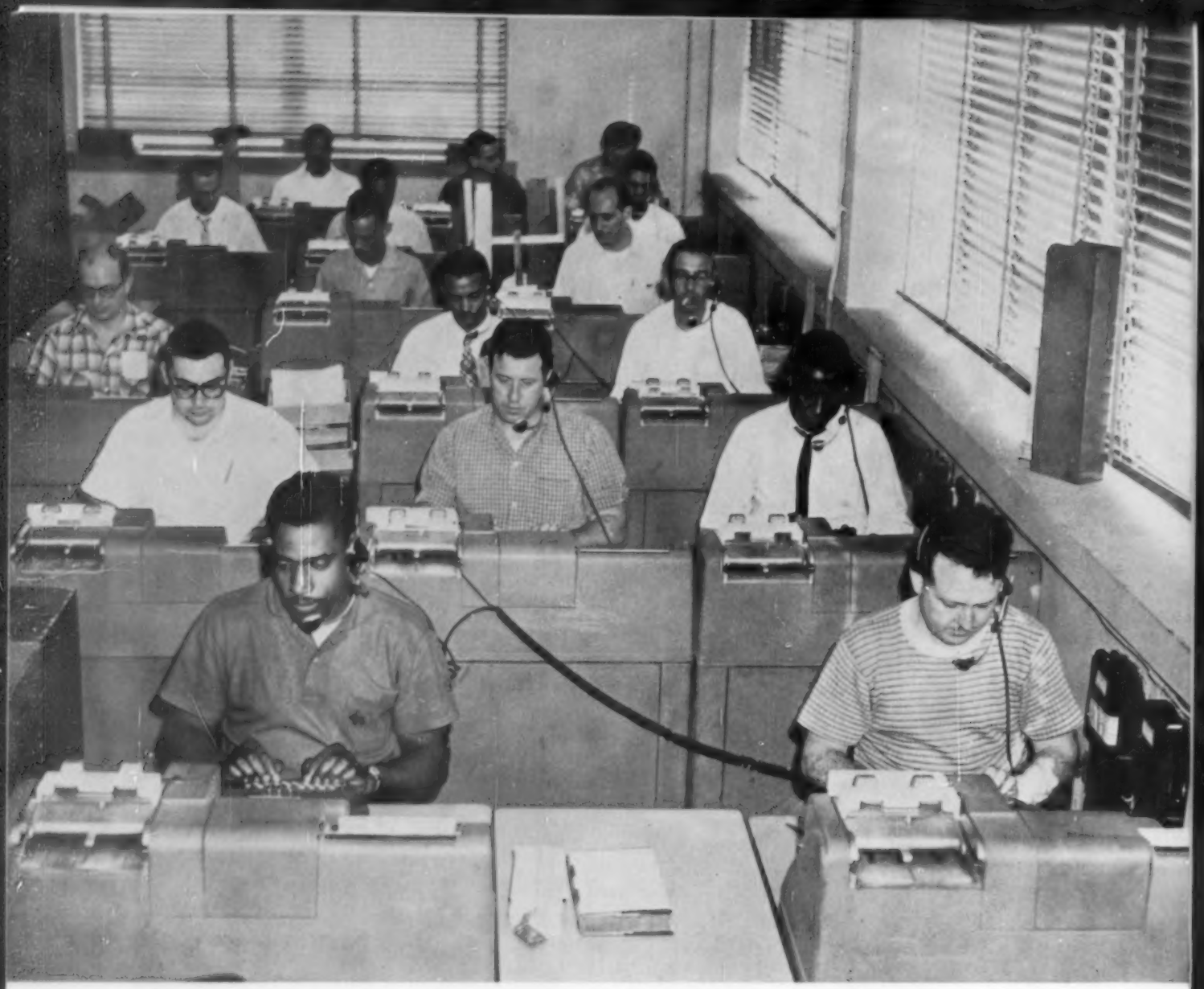
Yale, and its affiliate, Nationwide Packing Co., specialize in delivering merchandise from manufacturers to department stores. Its revenue has soared from $3.3 million in 1953 to $11.3 million in 1958.

While executives of the corporation admit that it might have been extremely difficult to handle the mounting paperwork resulting from the firm's phenomenal growth without automation, they emphasize that lower clerical costs—one of the most frequently expressed reasons for automated procedures—is considered of secondary importance in Yale's case.

The move to automation—much of it new and revolutionary in the transportation industry—was motivated by an almost fanatical concern with customer service which dominates the thinking of Benjamin Eskow, 63-year-old president of the company.

This is illustrated by an incident (related by his son, Gerald Eskow, now executive vice president) that occurred some years back at a meeting of Yale executives. A discussion arose about the ratio of profit to overhead in carrying the 200 million pounds of freight then being handled.

The officials had their say, discussed their figures and suggested operating short-cuts and



Direct telephone communication between the loader and the punched card machine operators gets the bill of lading information onto work cards called "pros" long before the goods arrive in the terminal. (See picture above.) At the same time, this information is flashed to the terminal, and there dispatchers (see picture opposite) can prepare a truck bay to receive the shipment as soon as the truck pulls into the terminal.

efficiencies. The senior Eskow listened to all and then remarked: "Gentlemen, overhead costs are important. Profit is surely important. But the most important thing in our business is how the department stores write their shipping instructions to their suppliers. Everytime a new department store—not on our books—writes, 'Ship via Yale,' we have won another victory. Our overhead will go down, our profit will go up—but only to the degree that our service cuts down the time between the customer's order to his supplier and the delivery by us of the merchandise to the floor of the customer's store."

A bit of background will serve here to explain Mr. Eskow's position. Yale Transport and Nationwide Packing serve the leading department stores on the Eastern Seaboard. The end function is to pick up the merchandise from the manufacturer

and get it to the stores—fast! The greatest part of the volume is in soft goods. Every minute saved between the maker and the store's shelf is important to the store's sales picture. Through electronic data processing Yale has reduced the time of delivery from the two to three-day service (and longer) provided by most carriers—to an *overnight service.*

A trucking spectacular

This is a spectacular achievement. How spectacular is best illustrated by this example: On a certain day, a New York store orders a number of items from several different manufacturers in different cities. These must reach the store the following morning and be on the shelves when the doors open to meet a special sales situation.

Physically, any trucker or a group of truckers can deliver the merchandise. The problem for the average trucker is the paper work which lags behind. Before anything leaves a point of origin, a bill of lading must be created. This must include the name and address of both the shipper and consignee—as well as all financial and statistical information such as weights, rates, extensions, number of pieces, freight charges and advance charges.

This requires typing, manual calculation of rates, and a number of transcribings of information. The likelihood of human error increases at each step. Moreover, with most trucking companies, the bill of lading must be converted into an 8 to 12-part form before the goods can leave the point of origin. Loading of the truck must

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By M. W. Anderson
and T. L. Vallely, Jr.

Relècom—a New Concept In Management Control

An executive can interrogate a computer from his desk.

AT 4:10 p.m. the president of Future, Inc. wants to know the total sales of 14 district offices spread across the country. He wants target figures and actual figures. He wants to know if his four plants have sufficient inventories on hand to ready shipments on the orders.

At his desk he pushes a series of buttons and turns to a television-type panel on the wall. Instantly figures appear showing the day's sales —of all 14 offices. At the same time he sees the inventory figures. A quick glance is all he needs to make a decision—the right decision—because these are *today's* figures!

This is tomorrow's executive using Relécom—Reporting by Electronic Communications—possibly the greatest single step taken toward solving the organizational communications problem. For Relécom, as conceived, goes one logical step beyond the automatic collecting, processing and printing of data. It transmits this data, processed and summarized in an instant, to the executive who requests it.

In effect, he receives the information without waiting for a printed report—he is literally able to interrogate a computer located in the data processing center and have the answers flashed on a screen in his private office.

Relécom implies the fulfillment of the total systems design for effective use of communications by upper levels of management. It delivers—in an instant—selected data to the executive who requests it. Sales figures, inventory figures, production figures, any and all types of pertinent information that flows into the data processing center will be his to command.

Relécom panels will be installed in the office of the president, vice presidents, and plant managers. Each panel will be programmed to accept only the information relevant to that individual's area of responsibility, and each can be programmed to reveal as many as 10 or 12 different kinds of data in the form of figures or charts.

A push-button arrangement, similar to those on modern office telephones, will control the display

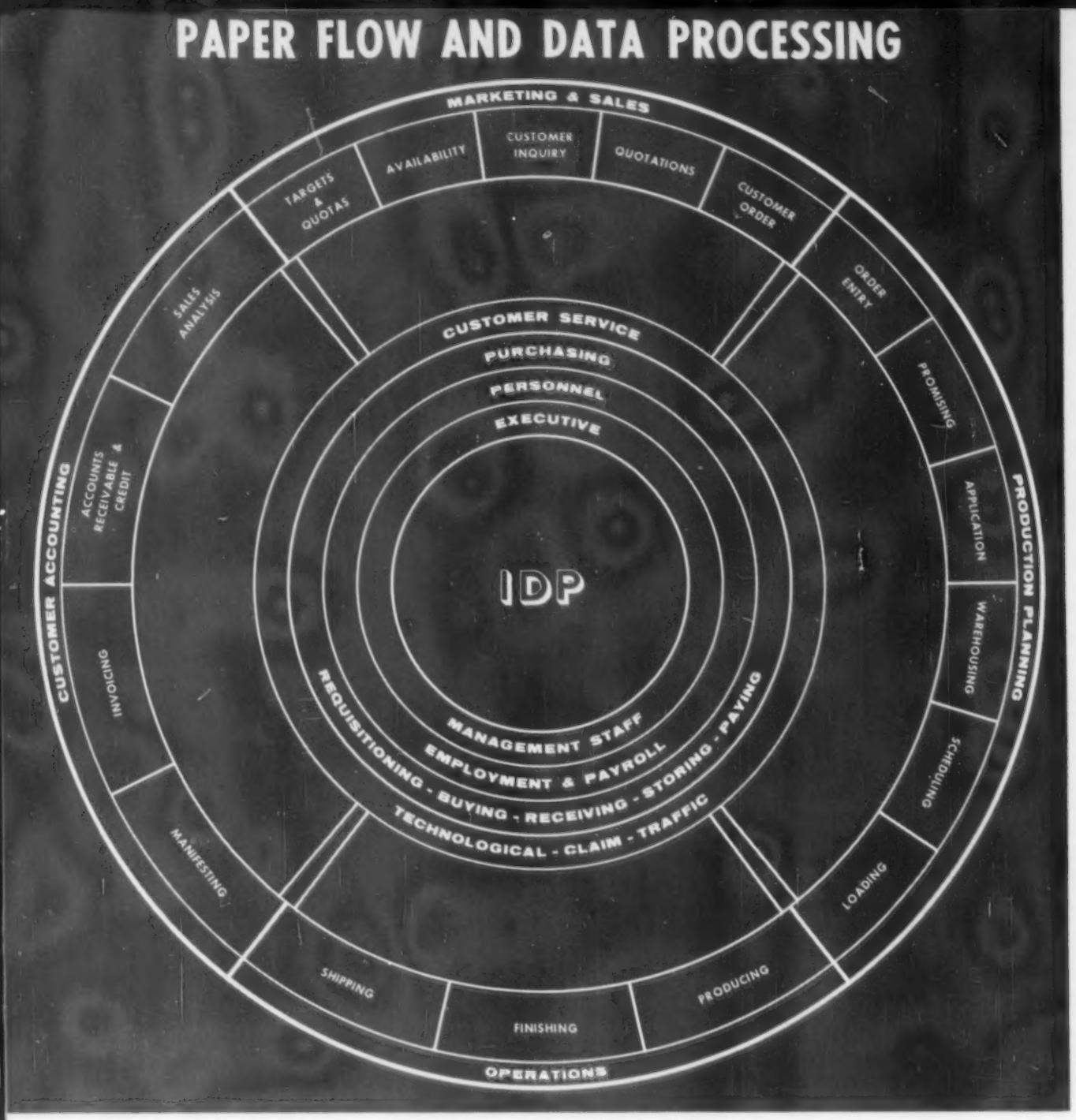


Chart I shows the IDP of an enterprise as the hub or core of all data activity. Information flows to and from this core affecting all levels of the corporate structure.

Authors MacDonald W. Anderson and Thomas L. Vallely, Jr., take the credit as developers of the Relécom System. Both have credible backgrounds in systems and procedures, and both are members of the Systems and Procedures Association. Mr. Anderson is manager of systems and procedures for the Crucible Steel Co. of America, and Mr. Vallely is a systems analyst at the Brackenridge Works of the Allegheny Ludlum Steel Corporation.

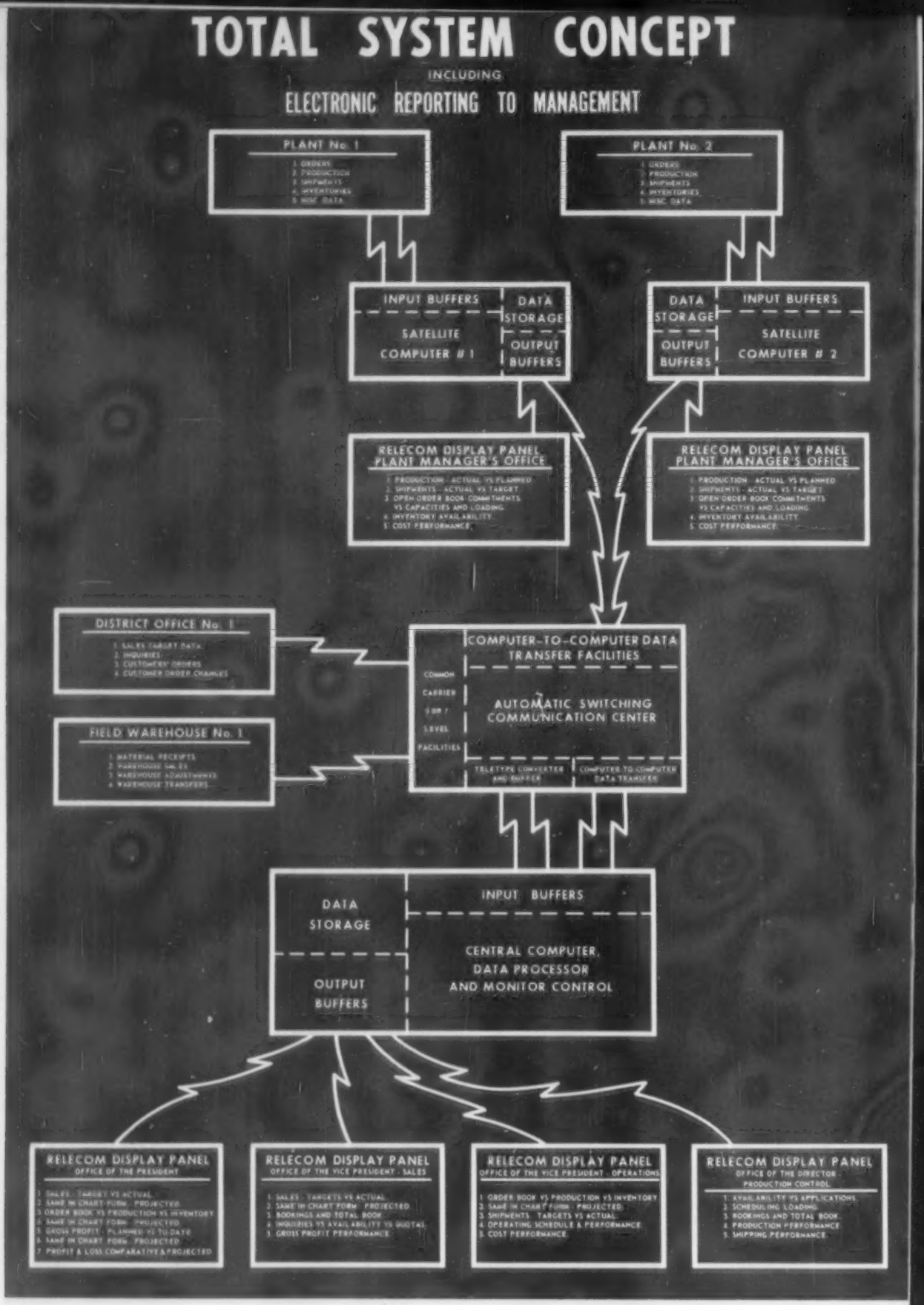

TOTAL SYSTEM CONCEPT
INCLUDING
ELECTRONIC REPORTING TO MANAGEMENT
PLANT No. 1
1. ORDERS
2. PRODUCTION
3. SHIPMENTS
4. INVENTORIES
5. MISC. DATA
PLANT No. 2
1. ORDERS
2. PRODUCTION
3. SHIPMENTS
4. INVENTORIES
5. MISC. DATA
INPUT BUFFERS
SATELLITE COMPUTER # 1
DATA STORAGE
OUTPUT BUFFERS
DATA STORAGE
OUTPUT BUFFERS
INPUT BUFFERS
SATELLITE COMPUTER # 2
RELECOM DISPLAY PANEL
PLANT MANAGER'S OFFICE
1. PRODUCTION - ACTUAL VS PLANNED
2. SHIPMENTS - ACTUAL VS TARGET
3. OPEN ORDER BOOK COMMITMENTS VS CAPACITIES AND LOADING
4. INVENTORY AVAILABILITY
5. COST PERFORMANCE
RELECOM DISPLAY PANEL
PLANT MANAGER'S OFFICE
1. PRODUCTION - ACTUAL VS PLANNED
2. SHIPMENTS - ACTUAL VS TARGET
3. OPEN ORDER BOOK COMMITMENTS VS CAPACITIES AND LOADING
4. INVENTORY AVAILABILITY
5. COST PERFORMANCE
DISTRICT OFFICE No. 1
1. SALES TARGET DATA
2. INQUIRIES
3. CUSTOMERS' ORDERS
4. CUSTOMER ORDER CHANGES
FIELD WAREHOUSE No. 1
1. MATERIAL RECEIPTS
2. WAREHOUSE SALES
3. WAREHOUSE ADJUSTMENTS
4. WAREHOUSE TRANSFERS
COMMON CARRIER 3 OR 7 LEVEL FACILITIES
COMPUTER-TO-COMPUTER DATA TRANSFER FACILITIES
AUTOMATIC SWITCHING COMMUNICATION CENTER
TELETYPE CONVERTER AND BUFFER
COMPUTER TO COMPUTER DATA TRANSFER
DATA STORAGE
OUTPUT BUFFERS
INPUT BUFFERS
CENTRAL COMPUTER, DATA PROCESSOR AND MONITOR CONTROL
RELECOM DISPLAY PANEL
OFFICE OF THE PRESIDENT
1. SALES - TARGET VS ACTUAL
2. SAME IN CHART FORM - PROJECTED
3. ORDER BOOK VS PRODUCTION VS INVENTORY
4. SAME IN CHART FORM - PROJECTED
5. GROSS PROFIT - PLANNED VS TO DATE
6. SAME IN CHART FORM - PROJECTED
7. PROFIT & LOSS COMPARATIVE & PROJECTED
RELECOM DISPLAY PANEL
OFFICE OF THE VICE PRESIDENT - SALES
1. SALES - TARGETS VS ACTUAL
2. SAME IN CHART FORM - PROJECTED
3. BOOKINGS AND TOTAL BOOK
4. INQUIRIES VS AVAILABILITY VS QUOTAS
5. GROSS PROFIT PERFORMANCE
RELECOM DISPLAY PANEL
OFFICE OF THE VICE PRESIDENT - OPERATIONS
1. ORDER BOOK VS PRODUCTION VS INVENTORY
2. SAME IN CHART FORM - PROJECTED
3. SHIPMENTS - TARGETS VS ACTUAL
4. OPERATING SCHEDULE & PERFORMANCE
5. COST PERFORMANCE
RELECOM DISPLAY PANEL
OFFICE OF THE DIRECTOR - PRODUCTION CONTROL
1. AVAILABILITY VS APPLICATIONS
2. SCHEDULING LOADING
3. BOOKINGS AND TOTAL BOOK
4. PRODUCTION PERFORMANCE
5. SHIPPING PERFORMANCE

Chart II showing Relécom integrated into the total IDP system.

panel from the executive's desk. He need only push the right button to select data to be shown at any one time.

It is expected that the president of a company will want access to a large variety of information from many sources. Vice presidents concerned with sales or production or plant managers will need only that information pertinent to their areas of control.

The hub of the corporate wheel

Relécom focuses the spotlight on communication of information to the proper place at the proper time. Integrated data processing systems brought a partial solution to the volume of paperwork in today's business enterprise, helping to bring it under control. The next logical step was an improvement in the method of communications to bring about an effective and efficient use of IDP systems.

The current status on orders, production, shipments, invoicing, sales analysis and the like, in the memory drum, is of no value itself. It becomes valuable only when it prompts action by being transmitted at lightning speeds to those who make the day-to-day, hour-to-hour decisions.

As shown in Chart I, the IDP of an enterprise will be the hub or core of all data activity. Information, flowing to and from this core, will affect all levels of the corporate structure. Management's concern will be with the decisions based upon digested data reports, not the flow of the data.

As it stands today, companies in all types of industry find they are spending a great deal of money for daily reports. Based on figures recently published by a management consulting firm, it is known that it now requires annual sales of approximately $100,000 at the usual rate of return of 5 percent to pay one clerk a salary (with fringe costs) of $5,000 per year. Since white collar workers now total nearly one-third of the total work force in most organizations, this is a tidy sum.

Time for the "panel" show

There is still a lag of days or even weeks in the recording and reporting of activities, with the result that much of the information reaching top management is of historical value only. This factor strongly points up the need for a system which will enable management to make carefully reasoned choices based on information received at the earliest possible moment. The dollar benefits from such reporting and control are inestimable.

Chart 2 shows how Relécom can be integrated into the IDP system. The central data processing center would be the heart, while the decentralized computers would be the main arteries.

Data is collected, processed, and summarized at each plant location. Automatic data transfer is provided from each decentralized computer to the central data processing unit where it is further processed, edited, classified, and routed to the storage component of the Relécom display panel. At the same time data is fed into the center from the district offices and field warehouses.

This up-dated information will be transmitted at periodic intervals to the storage unit of the president's wall panel.

As an example it can be assumed that shipping data will be processed each day between 9:30 and 10 A.M., between 12:30 and 1 P.M., and again between 3:30 and 4 P.M.

If the president pushes Button No. 8 (Shipments) at 4:10 P.M., the panel will reveal all shipping information processed as of 4 P.M. If he pushes "8" at 3:50 P.M., he will see shipments as of 1 P.M. which are still in storage. The panel always displays the related time.

There are similar panels in the offices of the various vice presidents, operating in the same way but programmed to accept information pertinent to each man's responsibility. These "top echelon" panels accept selected data from each decentralized computer as well as the accumulated data from all corporate works. The panel in the office of the plant manager, on the other hand, displays data selected from a single decentralized computer related only to his area of operations.

An eye for figures

The Relécom panels will be programmed to display monthly or quarterly projections for sales, shipments, production, profits or any other target. When the results of the day-to-day activities are shown, they can be readily compared with the established goals. Areas behind schedule can immediately receive the necessary managerial attention. There is also the factor that top management can constantly, though unobtrusively, keep a constant eye on corporate activities. This knowledge, at the lower levels of responsibility, can stimulate improved performance and closer cooperation between departments and organizational levels.

The cathode ray tube-type Relécom panels will in no way transform the executive's office into anything resembling the New York Stock Exchange. They could, in fact, be set behind wall, mural or drape panels which enclose them when not in use.

Printed reports of data displayed can augment the Relécom reporting technique. Present camera equipment with a special reflex lens can provide automatic photographing of the display, or

Continued on Page 48

Forum keynoter was Morris G. Fuller, president of State Farm Life.

A First for LOMA

Automation Forum Attracts over 400 Insurance Officers

OVER 400 representatives of American, Canadian and foreign life insurance companies gathered at Chicago's Drake Hotel, April 13-15, for the first Automation Forum sponsored by the Life Office Management Association.

The three-day meeting covered all phases of electronic data processing, ranging from the initial consideration and planning on through the complete integration of a new system into a company's operation.

Some 82 computer experts, from within and outside of the life insurance industry, played major roles in the forum, directing 35 panel discussions and workshop sessions. Speakers at the general sessions included Morris G. Fuller, president, State Farm Life; Charles E. Grody, general auditor, New York Life; and E. D. Dwyer, chief Navy Management Office, Department of the Navy.

The Forum keynoter, Morris G. Fuller, predicted that automation in life insurance offices will probably see expanded use in the next five years as compared to the five years to date since the first electronic computer was installed in a life insurance company. He said that the machines, now used by many large life companies, will find their next area of development in the medium and smaller companies.

"The use of electronic computers will be greatly facilitated by the introduction of smaller machines. These will accomplish the same results as their much larger ancestors without the huge space requirements," Mr. Fuller continued.

He urged top management to assume a closer tie-in with the planning, development and direction of automation in life company offices to make certain that the most effective steps would be taken. The results will show the greatest gains for all concerned—both those within the business and the policyholders.

Charles E. Grody concluded the opening session with a talk on "Automation *is* the Auditor's Business." He disagreed with those who have claimed that a revolution is about to take place in office procedures because of the introduction of electronic computers. He insisted that there was no revolution and "we are not about to have one."

According to Mr. Grody, the office is experiencing an orderly evolution in accounting methods and procedures that began when man first learned to keep records by inscribing numbers on stones. Electronics is only a contemporary incident in the evolutionary process, he said.

A need for vision

E. D. Dwyer, concluding the Forum program, challenged management to display more vision and imagination in the use of computers. "If we are objective and truly honest with ourselves," Mr. Dwyer said, "I feel that most of us will admit, as managers, that we are simply not ready for the potential marvels to be wrought through the proper management exploitation of electronic computers."

Today's computer applications generally reflect

A. E. DuPlessis, secretary of data processing, Travelers (left), and William H. Climo, electronic methods and procedures manager, New England Life, lead discussion on "Personal Considerations in Developing an EDP System."

Roy A. MacDonald, LOMA Managing Director, and (right) Alden F. Jacobs, LOMA Treasurer.

a conversion of old systems rather than the development of new systems designed to capitalize on the unique capabilities of the computer, he said.

Speaking at the Forum luncheon, Charles B. Laine, vice president, Prudential, explored the subject, "Programming Personal Profit."

Forum panel sessions included the following subjects: Cost Considerations, Comparison of Operational Costs of the Old and New Systems, Development of Machine Programs, Peripheral Equipment, Group Insurance Applications, and Debit Insurance Applications.

Life begins at 400

Other panel presentations covered: General Approach to Ordinary Insurance Systems, Converting to the New System, EDPM System Controls, Network Communications Equipment, and Organizing for Automation. Work shops included Personnel Relations and Personnel Considerations in Developing the New System.

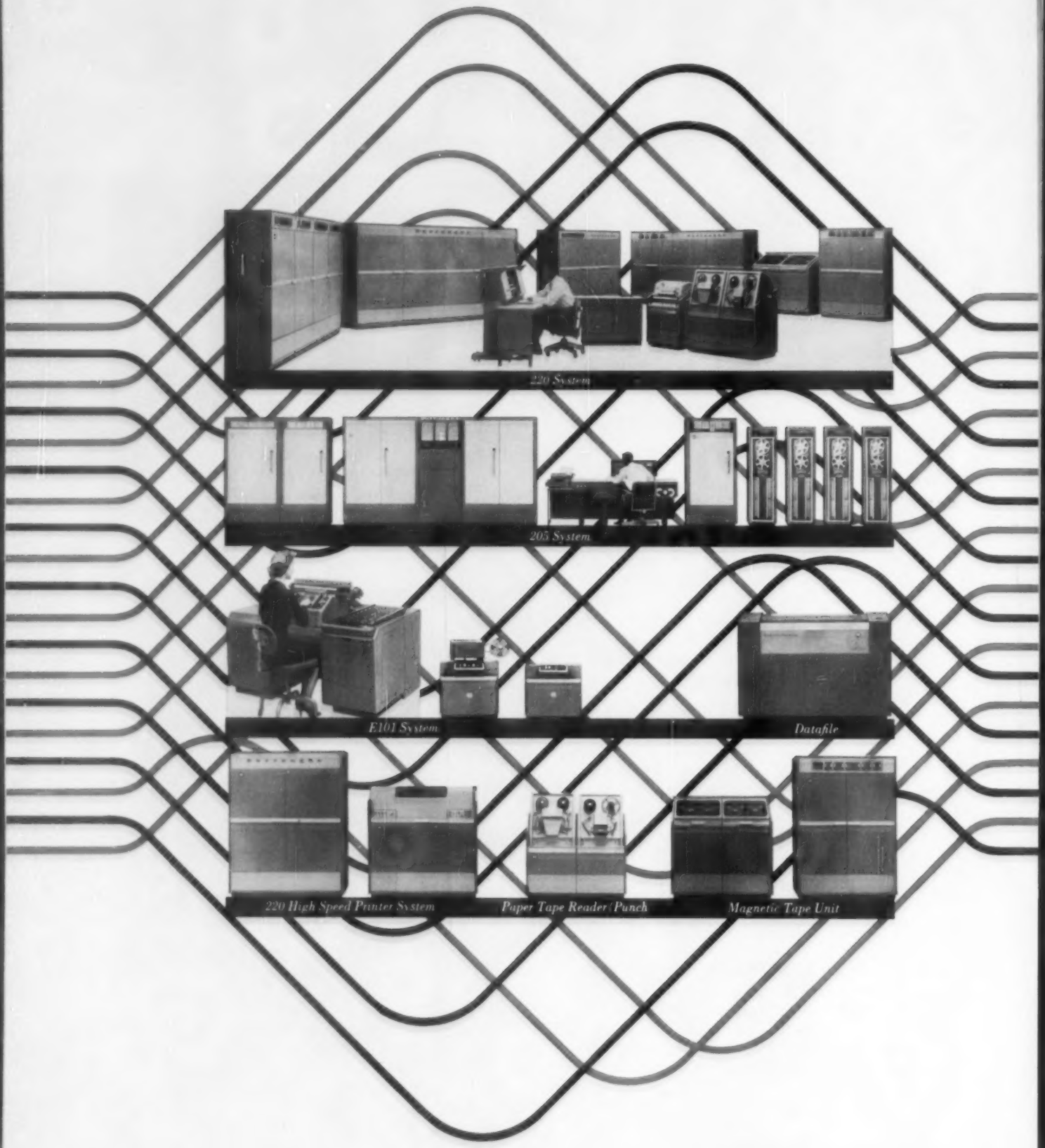
The Life Office Management Association is made up of officers from over 400 life insurance companies. The association directs and encourages cooperative research in the sphere of home office management not included in the objectives of other life insurance associations. The association maintains headquarters in New York City and has a full time executive and administrative staff headed by Roy A. MacDonald, Managing Director.

Everett H. Lane, President, Boston Mutual Life Insurance Co., is president of the association.

General chairman of the Automation Forum was Stevens L. Shea, planning secretary, Massachusetts Mutual, vice general Chairman was Charles G. Groeschell, comptroller, Northwestern Mutual. Assistant general chairmen were Eugene Boulanger, assistant director of planning, Mutual Life of New York; Robert W. Harvey, second vice president, Prudential of America; Joseph W. Glynn, vice president and comptroller, Continental Assurance; and Robert T. Wiseman, planning officer, Sun Life Assurance. ■

LOMA President, Everett H. Lane (left), president of Boston Mutual Life, and Peter McDonald, past president of LOMA, vice president and secretary of Crown Life Insurance.

Photos on this page by Fergason for MBA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For More Information Circle Reader Service Card No. 6-60

A Case of Missing Management

In this provocative article, the Editor of MBA probes the lack of responsible management evident in a good number of machine accounting operations. Rather than to condemn and pass over, he offers constructive measures to build a position into a profession.

By Arnold E. Keller

ONE tale of punched card mythology involves the machine accounting supervisor who "blew his top" scattering his procedures all over the installation. There is much truth mixed with the humor of this parable, for in a large number of installations the procedures covering the complex and vital punched card operations are contained, not in writing, but in the head of the supervisor.

Unknown to many executives is the fact that their entire machine accounting operation could possibly grind to a halt with the departure of just one man—the supervisor.

"Poor mangement", you say? Agreed! But it is an unfortunate truth that a majority of punched card installations are not managed, they are merely "run."

The lack of managerial ability is a problem that has long plagued the machine accounting profession. Cause for the problem can probably be laid right on the door-step of the equipment manufacturers. For many years their standard sales talk has included the pitch that "punched card equipment requires no special skills" and that anyone can be trained to operate and supervise the machines.

This philosophy has found acceptance among equipment users with the result that men of varied types and skills have been selected to head the machine accounting operation. The most common mistake made was to assume that, as machines were involved, the man picked to run them should have some mechanical leanings. Such logic is the major reason why so many installations are today supervised by technicians, rather than by good managers.

Though initial blame can be traced to the equipment industry, certainly top management of the user companies must assume responsibility for allowing a continuation of the condition.

The machine accounting department functions as a service center supplying all areas of the business with vital statistics and operating information. It is the production line of the business office,

"Some installations operate on the 'audio' system — whoever 'hollers' the loudest gets their reports first."

fashioning finished reports out of the raw material of facts and figures.

These reports determine the action to be taken by the sales, purchasing and production divisions of a company. In fact, most of the nation's key industries rely on the output of the machine accounting department to guide top management decisions.

Put it in writing

How, then, can such a vital operation be entrusted to the supervision of men obviously lacking in managerial ability?

The answer is a simple one—it cannot be. Not if the potential benefits of punched card processing are ever to be realized.

What are the requisites of good management in machine accounting? Here are some of the important ones:

Ranking among the top items is the matter of procedures—written and up-to-date. One of the main reasons for getting the procedures "out of mind and in sight" is to provide the machine operators with a clear and simple set of instructions. The greatest cause of erroneous reports and expensive "re-run" time is the failure of supervision to communicate proper instructions to the operators. Verbal instructions (notes hastily scribbled on the back of a card or a scrap of paper) or other haphazard methods of communication will eventually backfire and cause serious difficulty.

Another compelling reason for written procedures that in order to revise and improve an existing procedure one must be able to review it step by step in visual form. Most expert machine accountants will agree that a procedure, not revised at least once a year, is a procedure that is not producing top efficiency.

Worse than no procedure at all is one that is out of date. At least, when a write-up is lacking, the operator will require verbal instructions from the supervisor in order to run the job. But if an old, out-dated procedure is around there is always the possibility that an enterprising operator will just go ahead and run the job according to the existing instructions. The result: a wrong report.

There are dozens of ideas regarding the best type of a procedure system. A common mistake is to overcomplicate it. The best bet from the author's view is a system that provides one master procedure for the department head and one copy for operating purposes.

The procedure should be designed along flow-

"Installations are literally 'run' by shirt-sleeved technicians who rush madly about the machine room—'putting out fires'."

chart lines with written instructions where needed. Sample reports with "lockouts" and other necessary information for the operator should be contained in a folder that supports the flowchart procedure.

The procedure should be constructed so that a revision can be made by simply changing individual pages. To insure the proper updating of procedures, the following rule should apply: No deviation in running a job without first changing the procedure.

There is no valid excuse for not having written, current procedures. The tattered and worn alibis —"no time", "too much work", "things change too fast", "we don't need them here"—are really just admissions of managerial weakness. There *is* time, and they *are* needed. Any supervisor worth his salt should work himself and his staff around the clock until missing department procedures are written.

Another sign of good management in machine accounting is the availability of machine utilization reports. A supervisor should know the exact number of productive hours for each machine on each job. He should have a record or all "down" time and the reasons for it. He should have a clear picture of the available hours for each machine.

As part of the machine utilization system he should be able to relate machine time to the various departments using the machine accounting services. Only by "costing out" the operations of the department can the supervisor present to management a true picture of the effectiveness of his operation. The most effective utilization program involves the use of "job" cards by the machine room personnel.

This is the tried and true method used by professional service bureaus across the country. It can be just as effective in any machine accounting installation—which is actually a service bureau in its own right.

He who 'holler' loudest

Many supervisors reject the job card idea with the comment, "we've tried it but the operators won't cooperate." Management would be wise to reject both the comment, and the supervisor making it.

Equal in importance with machine utilization is the necessity of scheduling work through the department. An amazingly large number of installations operate on the "audio" system of scheduling —whoever "hollers" the loudest gets their reports first. This method encounters its greatest problem when all departments "howl" at the same time and with the same degree of reverberation.

Another hazardous system is one where an extra five days is added to the normal time necessary to complete a report. This "play safe" method of scheduling, along with the audio system, are actually robbing management of the true efficiencies of machine accounting.

A supervisor should have a realistic schedule, providing his management with the most efficient

Continued on Page 44

ACME VISIBLE

PUSH BUTTON MOTORIZED ROTARIES

bring the work to the workers!

Many units are expandable and may be supplied either manual or motorized with compartment size and spacing to fit individual requirements.

Finger-tip control brings the record to the individual at working level—eliminates personnel movement and handling fatigue. Saves time of locating or filing—increases production. With all of the records easily accessible within the reach of several operators, the same personnel can accomplish more, easier and faster with greater coordination and less duplication of effort.

Acme rotaries provide tremendous record capacity in minimum space. They can save up to 50% of floor space for a comparable number of records.

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GOVERNMENT inventory control
TRANSPORTATION routing and reservation
UTILITIES subscriber records

ACME VISIBLE RECORDS, INC. • Crozet, Virginia

G-15

We would like more information on rotaries for _____ records.
(No. of records)
To be filed
☐ Individually
☐ In books

Company_____
Address_____
Attention_____
City_____ **Zone**____
State_____

For More Information Circle Reader Service Card No. 6-61

New Series 1200 Character Sensing Equipment designed to help banks process checks faster.

An MBA Product Preview

IBM Shows Automated Banking Equipment

INTERNATIONAL Business Machines' contribution to the era of bank automation was unveiled last month at the company's Product Development Laboratory in Poughkeepsie, N.Y. The new IBM line is the Series 1200 character sensing equipment. Five new pieces are included in the line.

The IBM 1201 Proof Inscriber proves, lists, distributes and endorses checks while automatically imprinting the documents with magnetic ink characters for compatibility with the rest of the equipment.

The 1210 Sorter-Reader senses information printed on checks in magnetic ink and automatically sequences and arranges checks at the rate of 54,000 per hour. It can also feed information sensed from checks into other segments of a data processing system which can compute and process at high speed.

The 1220 and 1221 Sorter-Reader controls act as buffers for feeding information into units of IBM's data processing system. The 1220 works in conjunction with magnetic tape units while the 1221 can act as a buffer for the 407 accounting machine.

Fifth item in the new line is the 1202 Utility Inscriber, an electric typewriter for quick imprinting in magnetic ink of damaged or substitute documents for system compatibility.

Sorter-Reader can process inscribed checks of any common length or thickness.

In announcing the new equipment, Francis G. "Buck" Rodgers, head of bank marketing for IBM, said that the first units will be coming off the production line in September. He also announced that the Rhode Island Hospital Trust Company had become the first bank to order the series 1200 equipment. Circle No. 6-15.

thanks to *automatic* xerography...

A. Z. Mellon, left, supervisor, reproduction department, at Westinghouse jet engine plant, Kansas City, and O. D. Lambirth, section engineer, examine a series of offset paper masters that emerge as a continuous roll at the rate of 20 feet a minute from the XeroX® Copyflo® 11 continuous printer, background. The Copyflo printer has cut Westinghouse's average cost of preparing a master from 40 to 8⅔ cents, and saved additional time and money in other paperwork duplicating applications.

Westinghouse of Kansas City Saves $35,000 yearly

A XeroX® Copyflo® 11 continuous printer—*automatic* xerography at its brilliant best—has reduced the cost of preparing offset paper masters by nearly 80%, and stepped up reproduction capacity 25 times at the Westinghouse jet engine plant, Kansas City.

In so doing the Copyflo printer is turning out clear, high-quality, paperwork reproduction at a faster rate than the division ever attained previously by any other method.

The Copyflo continuous printer is saving Westinghouse $35,000 yearly. Recent changes in plant operations that will permit greater utilization of the Copyflo printer are expected to double those savings.

Prior to its installation, the cost of preparing an offset paper master, for instance, was approximately 40 cents. Now it is 8⅔ cents.

Westinghouse previously could turn out only 200 masters a day. Recently, it prepared 617 *in one hour* on the Copyflo printer.

Reproduction work at the Aviation Gas Turbine Division in Kansas City consists largely of forms, sketches, engineering drawings, change notices, and specifications. An important part of the volume is the reproduction of operational lineups, of which 100,000 to 140,000 a month are turned out.

Of priceless worth to Westinghouse is the speed with which engineering-drawing changes now reach production lines. Changes are distributed sooner, thus saving tremendously in machining operations.

A Copyflo continuous printer is an automatic copying machine operating on the electrostatic principles of xerography to produce dry, positive prints or offset paper master ready for immediate use. The prints or masters—in enlarged, reduced, or the same size—emerge from the printer at the rate of 20 feet a minute on a 2,000-foot continuous roll 11 inches wide.

Wherever fast and economic copying of thousands of *different* documents is the need, look to the Copyflo continuous printer for the happy solution. For full details write Haloid Xerox Inc., 59-179X Haloid Street, Rochester 3, New York. Branch offices in principal U. S. and Canadian cities.

HALOID XEROX®

For More Information Circle Reader Service Card No. 6-62

Portable Card Punch Has Use In Remote Areas

The complete punching unit is only 8½ inches long and weighs approximately two pounds. Safety factors lessen chance for error.

For field use, a carrying case with a storage space for cards.

An MBA Product Preview

A PORTABLE—and manually operated—card punching device, for use in remote areas away from tabulating or processing centers, will soon be marketed by VIP, Inc.

The unit, according to a company announcement will be available in mid-June. It is described as the solution to data processing where key punching equipment is unavailable or the volume of punching does not justify the expense of key punch machines or skilled operators.

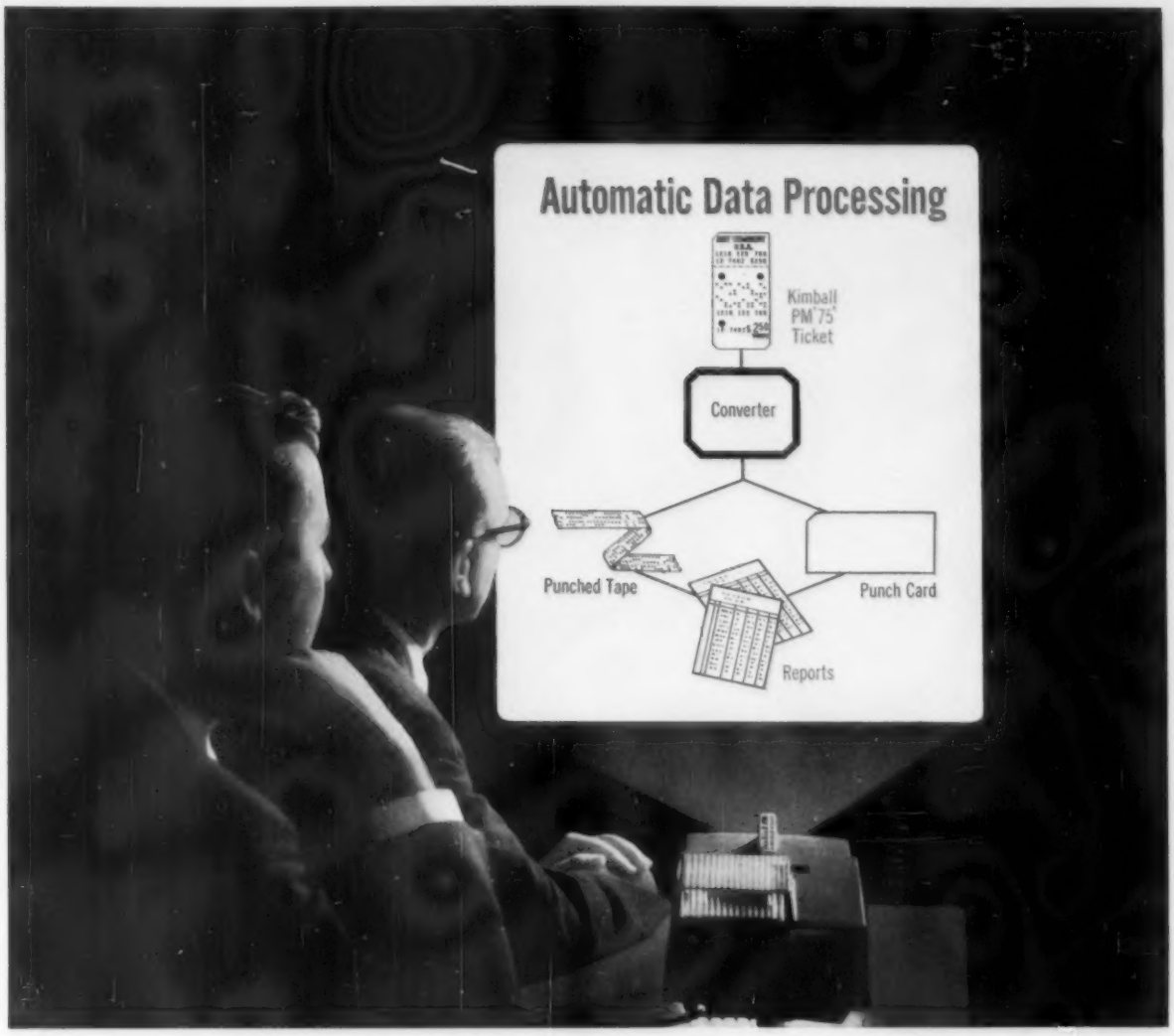
It is simple to operate. An 80-column card (it can be made for use with 90-column cards) is inserted into a recording slot. A special locking device prevents punching of the card while positive positioning of desired data numbers is being made. The card is also held in the slot prior to punching and will not move until the operation is completed.

An in-line window arrangement indicates data to be punched and the operator can simultaneously punch six columns at one time. Following the punching, it can be verified immediately by use of a special verification plate built right into the unit.

The device weighs approximately two pounds and is 8½ inches long, 4 inches wide and 1½ inches deep. It has an accessory carrying case with a built-in card holder for field use.

The company points up the obvious advantage of the portable punch in comparison with written reports, and it also claims several advantages over mark sensing. These include the accuracy factor (due to safety devices), the elimination of errors in recording because of the use of the wrong pencil, and the need for the use of an auxiliary machine in transferring the information to cards.

The VIP card punch is designed to give the user automatic input (in punch card form) at the source of the data. Potential users are public utilities, (meter reading), insurance firms (premium collections and sales statistics) and manufacturers (inventory, employe payroll). Circle No. 6-16



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For More Information Circle Reader Service Card No. 6-63

Automation Delivers the Goods

Continued from page 19

A new system of loading, engineered to maintain the swift pace set by Yale. Here loaders are in direct communication with the TV control board. Special markings on the packages help to guide the loaders in their job.

Full use of communications to automate the pickup and delivery of merchandise extends even to the trucks on the street which are equipped with two-way radios to keep the drivers in constant touch with the terminal.

President Benjamin Eskow finds customer service his never-ending goal.

Gerald Eskow, executive vice president, makes automation pay dividends.

wait until all of this paper work is completed, and even then, in most cases, the store doesn't know what's coming until the truck arrives with the paper.

Yale has automated this entire paper process by installing several pieces of IBM equipment (including a 607 computer and a Transceiver for simultaneous electronic production of punched cards at several different points), an I.T.V. (Dage Television) closed-circuit TV hook-up, and a two-way radio dispatching system.

A broken bottleneck

A single work card is prepared from the original shipping document. This pre-numbered punched card—called the "pro" for processing—contains all the essentials such as financial, statistical and instructional details needed by shipper, trucking firm and consignee. This includes any special data requirements.

Necessary calculations are performed electronically, and duplicates of this single card serve as Yale's processing copy, as a receipt, and as a memo to the consignee. These pros are sorted automatically, and copies are made for Yale's destination terminal on the transceiver. This submits an exact copy of the pro by telephone wire to the destination point.

Long before the goods arrive, the receiving terminal is aware of the incoming shipment. Trailer space has been cleared, routes laid out and delivery orders for the drivers have been set up. The big bottleneck has been broken! Paper work actually expedites delivery rather than delaying it.

Errors have practically been eliminated. Yale's battery of key punch machines, verifiers, calculators, tabulators and electronic transceivers have reduced the number of data processing operations and quantity of forms to a minimum. The system has expedited delivery of goods to the customer, and the first and *prime* purpose of the automation program has been achieved. The customer has been served—faster!

One copy of each pro—from all terminals—ends up in the New York office each night for statistical use. It is ready each morning for report preparation. These pros reveal such information as daily revenue from each terminal, weights and number of pieces handled. The same copy is also used to prepare the customer's statement and a remittance card which the customer sends back to Yale with his payment.

Greater service through automation

When the check comes to Yale with the remittance card, an IBM calculator verifies the amount (checking it against the pro) and the check is then deposited and the account closed out. Any pro

Ten closed-circuit TV cameras scan the terminal at all hours, keeping tabs on all loading and unloading operations. The dispatching office is in touch by telephone and a P.A. system. Camera seen in boxed area.

cards left in the file are outstanding accounts receivable.

Thus, the second purpose of Yale's automation procedures is achieved. One writing has given the customer his merchandise on time and the data he needs to pay his shipping bill.

The actual transshipment of merchandise overnight, however, is not the only service offered by Yale. Working with so many stores, Yale's affiliate, Nationwide, is in a position to pick up and consolidate shipments from various suppliers for single-stop deliveries—saving time and money for every customer.

Stores place orders daily for a wide variety of merchandise produced by any number of manufacturers in different cities. Getting the merchandise to the terminal city is important, but it is just as important, naturally, to get the right packages to the right store with correct marking for fast placement on the sales floor.

"As we see it," Gerald Eskow pointed out, "our service as carriers doesn't really stop on delivery to the store. Automation helps us to develop a unique cooperation with the store. Our deliveries are set up for more efficient distribution of merchandise *within the store itself*. The concept is greater service through automation. Electronic facilities are only half valuable if they are only half used."

Plan ahead

With this idea in mind, Eskow has automated Nationwide's service so that it can be coordinated with store policies. G. Fox and Co. in Hartford, Conn. is a good example. Nationwide is their consolidating agent for all New York purchases. Nationwide receives until 10 p.m., enabling a New York manufacturer to ship even late orders on the same evening. Direct telephone communication between loader and the punched card machine operator gets the pro card created instantly, and

the manifests are prepared before the trailer is ready to leave.

In addition, Yale's two-way radio between the terminal and the trucks in the streets gets the nearest truck to the supplier—sometimes within a few minutes and rarely in more than an hour."

In this way, those responsible for loading the truck that evening know in advance what the loading job will entail and plan accordingly. Trucks can make pick-ups as late as 10 P.M., and the merchandise will still be delivered the following morning in Hartford.

Truck loading, for G. Fox and the other stores, is another automatically controlled operation. Yale has installed a closed-circuit television control system designed by Dage Television division of Thompson, Ramo Wooldridge, Inc.

TV for the terminal

Ten TV cameras have been spotted throughout the New York City terminal which services as many as 800 trucks daily and is the largest privately owned terminal in Manhattan. These cameras are connected by coaxial cable to 10 monitors installed in the terminal's new operations office which is 250 feet away from the dock platform. Each monitor shows a picture of loading and unloading activities at the dock. Nine of the cameras each cover from four to eight of the terminal's 43 truck bays. The tenth camera, centrally located, is remote controlled by the operations office dispatcher. He can point it in any direction and select any one of four lenses to achieve close-up shots of areas not completely covered by fixed cameras.

By looking at the monitor screens, he can determine the exact status of the loading and unloading activities at a glance. He can then use the two-way radio system to direct incoming drivers into selected loading bays as they pull into the dock. At the same time he fills out a location identification card which is inserted into his dispatch board opposite the number of the appropriate bay. This system, then, has made the dispatch office a true nerve center. In addition it has intercom telephones and a PA system hooked up directly to the dock which puts the dispatcher in contact with any point at any time.

President Eskow points out that the closed-circuit system has increased the number of trucks the terminal can handle and "has actually cut minutes from the average time a trailer sits at our dock. In a split-second type of operation, nothing could be more important."

Gerald Eskow seconded this by stating: "You don't warehouse dresses, coats and ready-to-wear. To do business, you get these items out while they are still hot—they have to get from the manufacturer to the rack. Our job is to get the right box to the right place in the store so the merchandise gets out of the box faster. To us, that's automation at work."

At G. Fox, a conveyor carries the merchandise to specific floors of the store where electronic arms pick up and divert each piece to a proper chute. To expedite this system, the loading supervisor at Nationwide can plan the loading of a truck for the store so that each lot is labeled for immediate use. Each lot is accompanied by punched cards sorted by Fox order numbers, and each lot goes marked in the sequence desired by Fox.

Never before

Getting the shipment out of the box is uppermost in the mind of every Yale executive and employe. This is the basic orientation toward customer service—and automation has made it possible to perform this service.

From a theoretical and historical standpoint in the study of business automation, the Yale Transport operation is a giant step forward. First thoughts on automatic data processing in the early '50's generally conceived of the new data processing methods as faster ways of doing what had been done before. Automatic methods, computers and the like, were considered revolutionary only in the sense that they were fast enough to mean a qualitative change in certain operations. Emphasis, in thinking at least, was on reducing clerical expense through faster operations.

Management at Yale, while certainly interested in reducing expenses, was primarily concerned with the effect of automation on the entire operation. Automation opened new vistas—new methods of doing things *which had never been done before.*

The Yale Transport program, in practice, adds a new dimension to the analysis of automation in business procedures. Here the benefits go the whole way—right to the customer where they belong. ■

Louis M. Cottin began his career as a writer on business systems for Remington Rand, Inc., in the early 1930's, serving as an analyst on systems and business methods and a historian on the development of office practices and office machines. Today he is a free-lance writer specializing in automated office procedures and conducting independent research on new automation devices. He developed this article on a special assignment from MANAGEMENT and BUSINESS AUTOMATION.

MBA Showcase

New Products for Business Automation

Tab Card File

This 20-drawer, full suspension tab card file features the new Tab Products Co. file drawer which is said to fit 24 sizes and styles of file cabinets. The company claims that the wide selection of types and models available will make it possible for a tabulating installation to have a system specifically adapted for its own handling and storage problems. Circle No. 6-1

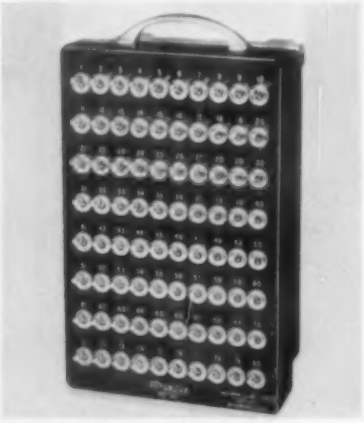
Automatic Utility Control

A central control panel developed to turn on and turn off lights, heating and air conditioning units, motors, audible signals and many other electrically actuated devices has been announced by Stromberg Time Corp. The SCOPE (Stromberg Central Operations Panel—Electric) can provide up to 1440 automatic, prescheduled programmed operations daily over a maximum of 60 circuits. Manual controls are provided for unscheduled operations. Circle 6-2

Accounting Machine

The new Class 31A National Cash Register accounting machine features electrically controlled mechanisms for determining and initiating proper posting programs or operations. It can also automatically decide that an inventory item should or should not be replaced, and it can verify the accuracy of balance pickups. Designed to provide more versatility, the 31A has the ability to capture data automatically in either punched paper tape or punched card form as a direct by-product of the original posting operation. Circle No. 6-3

Switchable Plugboard



Designed to speed up and improve card reproducing operations, the Quikswitch 80-80 is a switchable plugboard for use with the IBM 514 or 519 reproducer. It provides column-for-column reproduction into blank cards, or, at the flick of a switch, any desired column can be left blank or gang punched with constant data. No wires to pull for elimination or replacement after job is completed. Snapout Forms Co. is exclusive distributor. Circle No. 6-4

Microfilm Reader-Printer

The Thermofax 29 is a combination microfilm reader and printer in a single unit, producing prints in less than 15 seconds by push button. It is termed a low-cost unit at $919, and is expected to permit multiple installations. The machine is particularly suited to the enlargement of engineering drawings, but it has been designed with libraries, title and abstract companies, newspapers and government and legal offices in mind. It accommodates 35 mm. microfilm in aperture cards or tab card sizes, and will produce a print 18 by 24 inches. By Minnesota Mining and Mfg. Corp. Circle No. 6-5

Tape Storage Units

An expanded line of tape handling and storage equipment has been unveiled by The Wright Line, Inc. Included in the new offerings is the Unistorall, pictured here, which comes in both 30 and 48-inch units. It can handle both tape reels and tape trays, giving larger on-the-job storage of active reels. Other new units include a tape reel storage rack that will hold 130 IBM reels or Rem Rand 9⅞-inch reels in boxes, the 11⅝-inch Datatron, 8-in. Rem Rand reel with container or the large Rem Rand reels. New, too, is a tape reel carrying case with two snap locks which holds four reels. Another development is a truck, available in four styles (one with shelves and three with varying width inserts to handle tape sizes), and the Unitray for filing and storage of paper tape. A divider was added in the center which gives the tray two compartments of a width suitable for storing the folded tapes. Circle No. 6-6

Whiteprinter Developer

Ammonia Plus is the name of a new developer solution introduced by the Ozalid division of General Analine and Film Corp. Used with white-printers, Ammonia Plus is said to control machine corrosion and eliminate sediment deposits. It contains an additive termed L-89, which is claimed to coat machine parts in the developer section to prevent rust, pitting and chemical erosion. A masking agent has also been introduced into the solution to reduce odors. Circle No. 6-7

232 DIFFERENT WAYS TO AUTOMATE YOUR RECORD HANDLING

An increasingly important cost factor in every office is the cost of record-handling. The problem is compounded by the fact that as administrative, sales, accounting and marketing procedures become more comprehensive, the need for complete records becomes all the more imperative. Yet record volume all too often means less record-handling speed and higher record-handling costs. This is a problem that goes beyond the efficiency ratings of office personnel for the same reasons that the typewriter has replaced the quill pen: there are physical limitations to how much of a given kind of work the human body can do over a given period of time.

The Answer Is Mechanization

When Diebold, Incorporated began analyzing this problem the company determined the logical solution to be in mechanization of the record-handling procedure. It was from this base that Diebold, Incorporated pioneered in the development of mechanized files more than 25 years ago. Since then, Diebold has so refined the mechanizaiton of record-handling that today, Diebold Mechanized Files are used by more businesses than any other kind.

Models for 2,500 to 5,000,000 Records

The benefits of Diebold Mechanized Files are not confined only to businesses with hundreds of thousands of records: Diebold offers mechanized files in 232 different models that range in capacity from 2,500 to 5,000,000 records. Thus can the user with comparatively few records enjoy the same cost-cutting, time-saving advantages of mechanized record-handling as firms with far larger requirements. And because of the wide range of models, virtually every kind of record-handling problem meets its match in a Diebold Mechanized File.

What You Can Expect

Here are a few of the benefits a Diebold Mechanized File will bring to your record-handling operation. SPEED—Diebold Mechanized Files bring the required record within fingertip reach in three seconds. PERSONNEL PRODUCTIVITY—electricity does the hard work, does it quickly, safely and silently. Your people do more work and do it better, because the work is easier to do. CONVENIENCE—operator sits naturally, facing the work, with a Diebold Mechanized File. There's no awkward side-saddle work position to get used to. QUALITY—Diebold Mechanized Files are made by the same craftsmen who make world-famous Diebold bank vaults and other highly-precise protection equipment. Diebold Mechanized Files are built to the same high standard of excellence.

Case Histories Related to Your Business

You can get a detailed idea without obligation of the ways Diebold Mechanized Files can help you slash record-handling costs simply from on-the-job studies of how these files are helping other businesses. Simply use coupon below or call your nearest Diebold representative. He's listed in the Yellow Pages of your phonebook. Do it today . . . the longer you use obsolete record-handling procedures, the more they're costing you!

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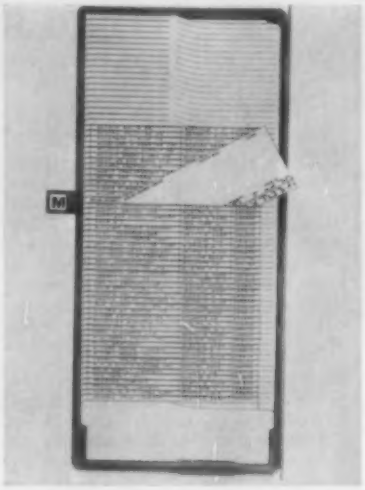
Visible Card Holder

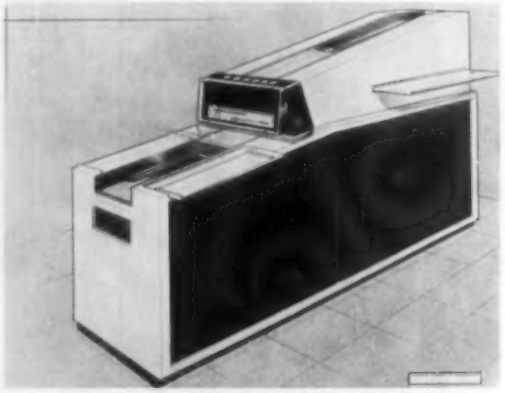


Remington Rand has announced a new visible card holder frame designed to speed automated office procedures. It is a modified Index Visible (IVI) frame with a four-inch wide runway and a flange on both sides to receive holder cards. Frames hold 134 holder cards of either size and each has room for three or four master cards. Circle No. 6-8

Portable Microfilmer

Complete portability is one of the advantages claimed by Recordak Corp. for its new microfilming unit. It weighs 24 lbs., and a carrying case is available. Its main use is its ability to be carried from one place to another in office or plant. The unit claims several advantages formerly found only on larger machines. These include a removable film unit, 100-foot film capacity and simultaneous exposure of two rolls of film at one time. It is hand-fed with a speed of more than 40 letters or nearly 100 check-size documents per minute. Circle No. 6-9

High Speed Punched Card Reader



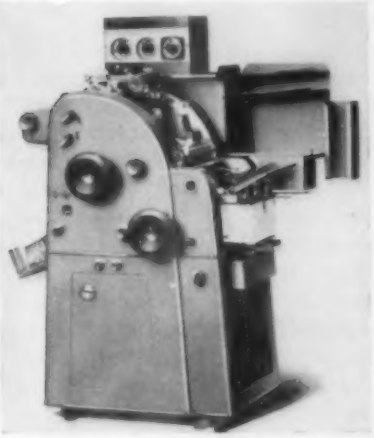
Philco Corp. and the Uptime Corp. have announced a joint program to develop and market a new high speed punched card reader.

Called the "Speedreader 2000", the unit is said to be capable of reading conventional punched cards, row by row, 80 columns wide, at the rate of 2,000 cards per minute. It has a capacity in the feed and stacking hoppers for 4,000 cards.

A prototype model has been in full operation at the Uptime Corp. headquarters in Rawlins, Wyo. Uptime will market the equipment.

One of the aims of the new unit is to allow high speed data processing systems to use punched card data more efficiently with the central computer and off line equipment. It is expected, also, to speed up the operation of card-to-magnetic-tape conversion units. Circle No. 6-10

Offset Check Imprinter



A reduction of up to 50% in check imprinting costs are claimed by A. B. Dick Co. if this new large-image offset check imprinter, Model 368, is utilized. Name, address and account numbers can be imprinted in magnetic or duplicating ink. Actual duplicating process is based on the new Model 360 duplicator with the main difference seen in the use of an electro-mechanical program control unit which "commands" the phases of the repetitive cycle of the check imprinting operation . . . which is dial-controlled. Circle No. 6-11

Photocopy Ball Pen

The new "Blak-Print" photocopy ball pencil is offered by the Eberhard Faber Pencil Co. for use with photocopiers, Verifax, Thermofax, and xerography machines. Tests in the laboratory revealed what the company considers permanent qualities sufficient for use with legal documents. Circle No. 6-12

Spirit Carbons

Spirit marginal punched continuous forms for tabulator and teletype installations are now available from Colonial Carbon Co. in several grades and popular sizes. Forms can be had plain, kiss-printed, or di-impressed printed, as required. The company also introduced a new water-soluble blue intense stainless spirit carbon and master unit identified as grade P-254. Said to be very clean to handle, but smudges can be removed with soap and water. Circle No. 6-13

Automatic Light Control

New light control system automatically "measures" daylight and balances it with electric light to assure a constant level of illumination. Designed for office and factory use, the Lux-trol is a product of The Superior Electric Co. Nerve center is a dial which pre-sets desired amount of room light. A photo-electric scanner monitors the area and relays the light reading to the controls for automatic adjustment. Circle No. 6-14

Only **FORMSCARD** is made without medial waste strips — can be written at high speed on any tabulating machine — separates easily, by hand or on a bursting machine. **FORMSCARD** can be used as part of a multiple forms set, and stapled if required. This new continuous tab card can be made with vouchers of any desired length. It can be printed in two colors, front and back, numbered **AND PRE-PUNCHED! FORMSCARD** is the most spectacular advance in Continuous Tab Cards, and is already in use by many of the world's leading businesses. Call or write today for detailed information and samples.

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For More Information Circle Reader Service Card No. 6-47

The Case of Missing Management

Continued from Page 30

use of the installation, and he should also release this schedule in advance to every department involved in the machine accounting operation.

Obviously, the incoming source data must be received on time if the schedule is to be maintained. When delays occur, the supervisor can expect prompt management action only when he can produce a written record that will substantiate his position.

Procedures, utilization records and schedules are just three of the factors that reflect good machine accounting management. Among others, good housekeeping and controls play an important role in the successful operation. A tidy shop does not necessarily guarantee a topnotch installation—but the odds favor it. Punched cards are to the machine accountant what dollar bills are to the bank teller. If one is missing, a report will fail to balance.

When you walk through an installation where there appear to be more cards on the floor and under the machines than there are in the files, you can be pretty sure that balancing is a major effort for the supervisor.

Controls—or lack of them—often become the Achilles heel of the machine accounting department. The accountant, professionally trained and indoctrinated in the importance of controls and balancing (in ledger postings and proof totals) simply can't accept—and rightfully so—the "well, we're close" philosophy of the average installation.

It is a proven fact that any punched card application, regardless of its complexity and regardless of the card volume involved can be controlled to the card and to the penny. And it can be done with a minimum of effort and with a system that won't require an "Einstein" to decipher. Such a control is the responsibility of the machine accountant.

Another responsibility, often overlooked, is the need to control costs and inventory. The waste paper salvage would seem to be the most important output of some installations. They throw away paper like it was going out of style. It has been said that 20 percent of every forms order ends up in the installation's waste paper basket.

This amount of spoilage on the factory production line would be disastrous. The luxury of "reruns" seems to be peculiar only to the machine accounting installation. It's a luxury that is ill-afforded.

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For More Information Circle Reader Service Card No. 6-69

The problem of inventory control over forms and cards is usually left to the machine accountant. The results generally have not been good. The presses of the continuous forms industry are kept busy rolling out "rush" orders—often at premium prices—simply because someone "forgot" to keep track of the usage.

Here again, in some installations, the play safe philosophy enters the picture. "We'll order more than we need—so we won't run out." This strategy usually backfires because a change in form design occurs, obsoleting a warehouse full of forms that shouldn't have been ordered in the first place.

To some it may seem that this portrays a very dark picture of the machine accountant. The portrait is intentional. For the entire machine accounting profession is suffering in stature because of the failure of many of its members to function as professionals. They have failed to accept management responsibilities and they have failed to "think management."

The need for professionals

But the failure is not that of the machine accountant alone. Top management has failed to clearly define the responsibilities of a machine accounting manager. As a result many installations are being literally "run" by shirt-sleeved technicians who rush madly about the machine room—"putting out fires"—and trying vainly to keep the situation in hand.

Such an installation will always be in trouble. The constant appeal for "more help" and "less work" is a sure sign that the job is too much for the existing supervisor. However, where punched cards are involved, management's patience seems to stretch into infinity.

For example, it is most difficult to imagine an executive allowing his factory production line to operate without up-dated "prints" and "bills of materials". Yet the same executive is probably allowing his "paperwork" production line—which may be many times more complex—to operate without its counterpart of written, current procedures.

We would recommend that the executive take a closer look at his machine accounting operation, bracing himself for a shock. He may find a model of efficiency. But the odds are that he'll find, instead, an installation that is costing twice as much to operate as it should and producing half as much as it is capable of doing.

Machine accounting installations serve as indispensable data centers to a majority of American business and governmental enterprises. These installations require professional management. It's the responsibility of the machine accountant to provide this management.■

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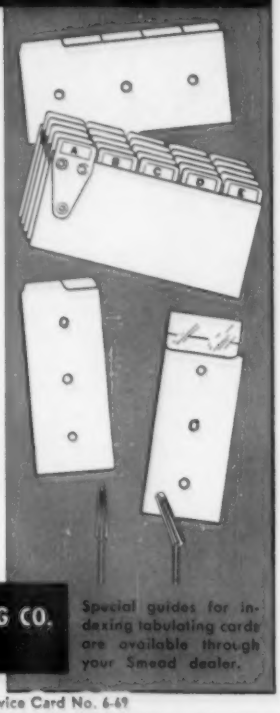

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NEWS

Expert Defines EDP Obsolescence

Addressing the opening session of the National Conference of Electric and Gas Utility Accountants in Chicago, Neal J. Dean, technical director of Electronic Data Processing for Booz, Allen and Hamilton, management consultants, defined the meaning of EDP obsolescence.

Dean told the 1,200 accountants that there are three kinds of obsolescence to consider: functional, economic and technological. Of the three, he said, the latter is the least important.

Neal J. Dean

He pointed out that functional obsolescence results when the equipment is worn out or no longer meets the requirements of the application. "If the installation is properly planned, the equipment should meet the requirements for many years into the future. Unfortunately, there have been cases of companies first buying equipment, and then attempting to design systems to fit the equipment. The procedure should be the opposite: plan the system and then obtain the equipment to meet the system's needs."

He added that the useful life of EDP equipment is at least 10 years.

From management's viewpoint, Dean continued, the most important type of obsolescence is "economic." This results from technological advances making available new devices which are so much more efficient than the installed equipment that continued use of the original machines is uneconomic.

He described a case study in which a company would be advised to go to EDP equipment, reap savings for several years, and then in event of economic obsolescence, the company could put in improved equipment at a lower cost. The key to such a decision is the accumulated savings over the entire period of consideration, said Dean.

Technological obsolescence is only important, Dean continued, if it creates economic obsolescence. "Actually," he said, "every new device in a dynamic field is technologically obsolete when it goes into production. Improvements are constantly coming out. But because of this, no management should defer consideration of entering a well planned EDP program.

Tab Card Manufacturers Form Association

The Association of Tabulating Card Manufacturers was formed recently in New York City by industry members at an initial meeting in the offices of Frank H. Baxter Associates, Inc., industrial consultants.

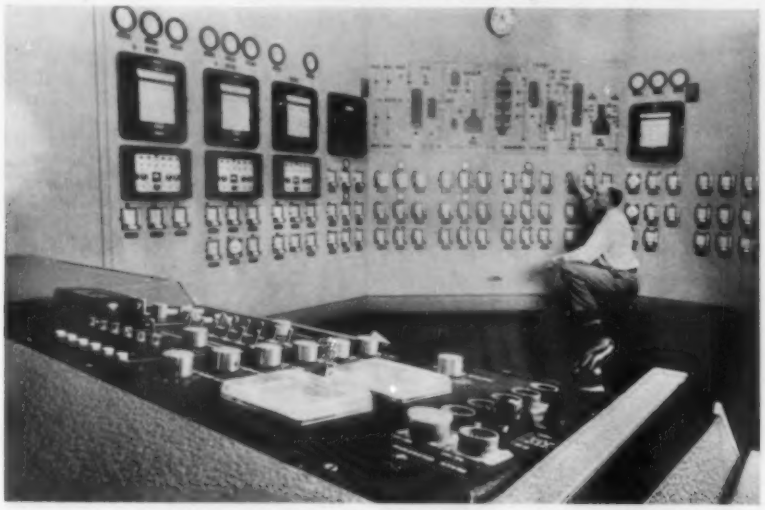
The manufacturers took the initial steps to organize the group and also sent invitations to other firms.

Those present at the first meeting were S. Gaynor, American Business Systems; L. M. Crowther, Ansell-Simplex Ticket Co.; J. M. K. Davis, Connecticut Printers, Inc.; H. F. Willert, Duplicate Forms; N. L. Bedford, Electronic Accounting Card Corp.; W. R. Schween, Ennis Tab Card Co.; P. B. Williams and J. Davis, Jersey Tab Card Co.; M. G. Lewis, M. G. Lewis Printing Co.; W. L. Morris and J. B. Clark, Middle States Mfg. Co.; E. B. Whittemore, The Morley Co.; A. D. Elliott, Remington Rand Co.; and L. Hartsook, Tab Checks, Inc.

Creve Coeur Bank Gets 4,000th Post-Tronic

S. C. Allyn, chairman of the board of The National Cash Register Co. and R. S. Oelman, president, are shown here inspecting the 4,000th Post-Tronic banking machine which came off the NCR assembly line. This unit is earmarked for the Creve Coeur bank in Missouri.

Computer Takes Over Refinery Unit



For the first time in automation history, a computer control "loop has been closed on a full-scale plant operation, giving the computer full control over this refining plant run by the Texaco Co. in Port Arthur, Tex.

Controllers Institute Names National Board

The Controllers Institute of America named 14 top finance officers to its national board of directors at the recent annual meeting held in conjunction with the Eastern Regional Conference in Richmond, Va.

Those elected included Edwin J. Cunningham, controller, Monsanto Chemical Co.; Harold L. Gebike, secretary-treasurer, Electro Refractories & Abrasives Corp.; John E. Griffith, vice president and treasurer, Phoenix Title & Trust Co., Phoenix, Ariz.; E. L. Hummel, treasurer, The Rapids-Standard Co., Inc.; Claude W. Hupp, controller, Glenmore Distilleries Co.; Harold S. King, controller, Grace Chemical Division, W. R. Grace Co.

Leland K. MacFarland, secretary and treasurer, Kingwood Oil Co.; R. W. Michie, vice president, The Chesapeake & Potomac Telephone Companies; Stanley B. Murray, M.J.B. Co., San Francisco; Rudolph Ostengaard, vice president, The California Bank; W. J. Pennington, business manager, Seattle Times; Harvey M. Snook, comptroller, Tennessee Coal & Iron division, U.S. Steel Corp.; Herbert F. Walton, vice president, Allstate Insurance Co.; and Paul A. Wilks, vice president and treasurer, Strathmore Paper Co.

Billion Dollar Forms Waste Cited

"Half of every dollar spent by business in paperwork is wasted." So says Talbot T. Speer, president and board chairman of Baltimore Business Forms, Baltimore, Md.

According to Speer, the total annual waste due to improper use and design of forms hits the $1 billion mark.

Mr. Speer contends that right forms for individual firm's needs and the right systems for using and filing them could cut waste and loss.

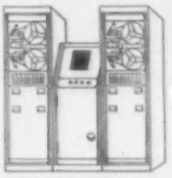
As an illustration of the benefits from better paperwork utilization Mr. Speer pointed out that by saving $100 in operating costs, the average small firm benefits as much as by getting an additional $400 in net sales.

Computer Role In Store Billing Told

The role of an electronic computer in department store bookkeeping was described to the Retail Research Institute at its annual meeting in New York recently.

Samuel N. Pritchard, Electronic Data Processing division, Radio Corp. of America, told the assembled retail men that the normal five-day billing cycle can be cut to one day by using a computer.

MORE ABOUT
DATA PROCESSING



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Write for information on your handling problem or on Auxiliary Tape Processing Equipment to . . . **Dykor Div., DIGITRONICS CORP., Albertson, L.I., N.Y. . . . "Pioneers in data processing technology."**

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A New Concept In Management Control

Continued from Page 23

selected photographing can be done by simply pushing a preassigned button on the control unit. In this way, data can be made available for conferences without a mad assault on a pile of statistics to bring a set of figures together.

Relécom's reporting technique, in effect, is necessary to gain the full advantage of the enormous processing speeds of the present data processing equipment. A high-speed printer can deliver information at 500 to 1000 or more lines per minute—but nobody can read that fast. This is comparable to driving 120 miles per hour to reach a destination an hour early for an appointment and then waiting for an hour to keep it.

Relécom does not eliminate printing! Printed reports will continue to go to the accounting department for financial, tax and cost analysis; to the purchasing department, to the sales department, and to all other departments which need detailed requirements.

It is the over-all picture of the company's operation that is seen at a glance—seen far sooner than by any previous method.

A clot in the electric brain

To design a system utilizing Relécom, the establishment of goals, time schedules and targets must be realistic, and the design of the system must incorporate all of the activities of the corporation as depicted in Chart 1. Moreover, the reporting requirements, data quantity and flow, possible organizational changes, as well as the equipment required to perform this work, must be analyzed with complete objectivity. In due time, and with the proper perspective, the long range plans will result in current programs.

The collection, processing and reporting of data must be selective. The entire organization must be analyzed as an integrated system. The problems of management must be thoroughly recognized before an optimum solution can be sought through careful study. All of this demands the careful selection of a qualified team that is familiar with the company's operations and that has firm management support.

Proof of this can readily be seen in the serious fumbles made in earlier attempts to design and implement a total system. Unless the right people are on the team (or in the bull-pen), it's best to leave the order forms unsigned or the appropriation requests untouched.

To field a minor league team on a major league assignment may lead to a clot in the giant brain, a cerebral if you will, that will put the corporation on the ropes while top management, instead of pushing information buttons, will be pushing panic buttons in an effort to assemble all the high-priced talent that can be mustered to put the corporation back on the track.

The Relécom system, as shown in Chart 2, will obviously require large-scale capital outlays. For that reason it may be necessary to regulate capital expenditures in a program of gradual automation toward the total systems goal. The step-by-step, or sub-system, approach may be completely practicable as long as each sub-system is designed as an essential component of the whole. Each sub-system must be built around a key function within the over-all system design, otherwise much duplication and an expensive waste of time will result.

A program that will encompass the total system is something that will not take place over night in any corporation. The smooth and effective integration of all facets of corporate activity for optimum processing, reporting, and control requires a great deal of study. This study must encompass possible organizational changes as well as production processes and data requirements.

Tomorrow's system

In the design of the total system, and the key functions within this system, many organizational changes will be necessary if the existing pattern does not give top management the control it is after. Relécom will go far toward allowing the president to test the relative efficacy of the different parts of his organization and may well lead to less overlapping of responsibilities. It should increase the soundness of individual and group judgements and have a tendency to prevent narrowly partisan group pressures. This total system for processing and reporting of corporate information will provide, therefore, a deeper understanding of the responsibilities of individuals and departments—to one another—in an interdependent organization.

The concept of Relécom is not too revolutionary or extreme to keep imaginative companies from moving surely—though cautiously—toward the type of reporting provided by it.

Recent new developments in electronic buffers and multiplexing equipment can complete the facilities required to handle all of the activities shown in Chart 2. The wavy lines are carrier or micro-wave connections, with no punched cards or punched paper tape being handled within the total system data flow.

There is data gathering equipment at all terminal points, i.e. field sales locations, plates, etc., however, once the data enters the flow, all disposition and re-use of the data is fully automatic under the "monitor control" of the central computer and data processor. These things are all possible today, and will be standard among the majority of progressive companies within the next five years.

Several leading manufacturers of electronic equipment are currently in the process of developing panel displays for data reporting to top management. It is reasonable to expect that this new communications device will be on the market before many corporations are equipped to use it.

The transition to this ultimate in data reporting, on the other hand, will be relatively simple for those corporation who are judiciously studying the total systems approach to their paperwork problems.■

MBA's Calendar

June 4-6—First national meeting of The Institute of Management Sciences (TIMS) at the Congress Hotel in Chicago. Information from Harold H. Cauvet, 250 North St., White Plains, N.Y.

June 15-20—First International Conference on Information Processing, Paris, France. Contact for U.S. committee, I. L. Auerbach, Auerbach Electronics Corp., 109 N. Essex, Narbeth, Pa.

June 21-24—International Accounting Conference, Waldorf-Astoria, New York City. Contact N.A.A., 505 Park Ave., New York 22, N.Y.

June 24-26—National Machine Accounting Association, national conference and business show, St. Louis, Mo., Chase Park Plaza. Contact N.M.A.A., Paris, Ill.

August 18-21—Western Electronic Show and Convention, San Francisco. Contact Wescon Headquarters, 1435 S. La Cienega Blvd., Los Angeles 35, Calif.

August 24-28—Electronic Data Processing Workshop Seminar sponsored by American Management Association. Limited to firms which have EDP installations or are planning installation. Write A.M.A., 1515 Broadway, New York 36, N.Y.

September 14-16—Electronic Data Processing Workshop sponsored by the American Management Association in Chicago. For details write A.M.A., 1515 Broadway, New York 36, N.Y.

September 21-23—35th annual National Association of Bank Auditors and Comptrollers convention, Boston, Mass. Statler-Hilton Hotel. Headquarters, 38 S. Dearborn, Chicago 3, Ill.

September 22-25—First national exhibition by Office Equipment Manufacturers Institute. National Guard Armory, Washington, D.C. Contact Richard Lang, 777 14th St., N.W., Washington 5, D.C.

October 4-8—National Business Forms Associates 14th Annual Convention at Chalfonte Haddon Hall Hotel, Atlantic City, N.J. Information from F. J. Ring, secretary, 207 E. Broward Blvd., Ft. Lauderdale, Fla.

October 12-14—International Systems Meeting of the Systems and Procedures Association of America, Royal York Hotel, Toronto, Canada.

October 18-23—National Business Show, New York Coliseum, New York City.

October 28-29—Sixth annual Computer Applications Symposium sponsored by Armour Research Foundation of Illinois Institute of Technology at the Morrison Hotel, Chicago. Contact M. J. Jans, conference secretary, Armour Research Foundation, 10 W. 35th St., Chicago 16, Ill.

November 4-6—Annual Industrial Engineering and Management Clinic, Conrad Hilton Hotel, Chicago.

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EDITORIAL

An Investment In Service

In a day when many companies will only accept payroll savings as motivation for an automated system, it is refreshing to find a management willing to justify automation strictly as an investment in service—and in its future.

Such is the case with the Chicago and North Western Railroad. Mr. Ben Heineman, Chairman of the Board, tells us that the road has no discernible prospects of recapturing directly either the initial or operating investment in the new Car-Fax data processing system. Installation costs for the system (see MANAGEMENT and BUSINESS AUTOMATION, May issue) amounted to $750,000. Annual operating costs will run around $1,100,000.

In Mr. Heineman's eyes the decision to automate was simply a matter of sound management judgement. The existing car accounting system was inadequate, having been designed mainly to satisfy accounting needs, and was not geared to the stepped-up pace of the road's modern management.

To revise it would require a heavy cash expenditure at a time when purse strings were necessarily drawn tight and also require additional personnel. On the plus side: revision would increase the road's operating efficiency and improve service to the shipper. Service, the only competitive weapon left to the rail carriers, could spell survival in the precarious years ahead.

So we find a decision for automation made on the basis of a careful survey of management needs. The decision was based, not on the cost of automating, but on the price for failure to do so.

The sooner more companies adopt this philosophy, the sooner they will begin to realize the true benefits of business automation.

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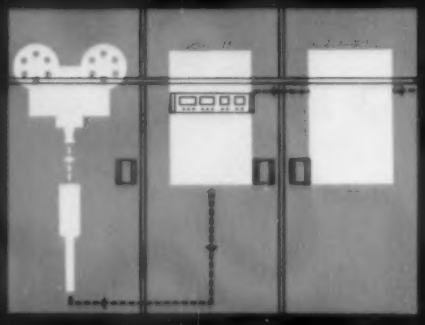

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